

DR. CHARLES F. ALLAN



Methods of Filling Teeth with Gold Inlays.*

By Dr. THOS. P. HINMAN, Atlanta, Ga.

Restoration of Incisal Angles.

In a mesial or distal cavity in an incisor which involves a loss of enamel on the incisal edge, gold inlays may be used and permanent results expected. The cavity should be prepared much after the accepted style for gold filling. The basal wall should be left flat and a step cut on the incisal edge. The step may or may not include the labial enamel; this being at the discretion of the operator. A slight groove is cut in the basal walls between the enamel and the pulp. In the incisal step a groove is cut, running mesio-distally, between the enamel walls and about 1-32 of an inch deep. (Fig. 13). Leave all the labial enamel standing that is not fractured, but cut the lingual enamel away freely. Frailer enamel can be left for a gold inlay than for gold filling.

The enamel walls are carefully polished and the incisal angle slightly rounded with a cuttle-fish disk in the engine. Carry the annealed matrix metal well up between the cavity and the adjoining tooth, being sure that the matrix laps the gingival margin; force the matrix into apposition with the cavity walls, using a piece of wet cotton pressed between the matrix and the adjoining tooth. Mallet the cotton with the orange wood plugger previously described. This will cause the matrix to be

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ITEMS OF INTEREST

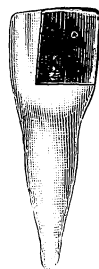
held tightly in position while it can be burnished to the exposed walls of the cavity. Remove the cotton and mallet directly on the matrix, thus forcing it to a close adaptation with the cavity margins. Finally the matrix is burnished, removed, trimmed and annealed and placed in position. Burnish the matrix along the floor into the anchorage groove and mend all tears with gold pellets. Remove and thicken with 22-karat solder. (Fig. 14.) Replace in the cavity and reburnish the margins. Take an impression in modeling compound, dry heated, removing the matrix with it, and run a model in sump. Restore lost parts in hard wax, build-up and carve as it is desired to have the finished inlay. Cut the tooth from the model, cover the wax, except on the lingual side with one one-thousandth pure gold, which it has been previously annealed,



FIG. 13.



FIG. 14.



LABIAL



FIG. 15. LINGUAL

burnishing it down to conform with the wax, using the fingers and a warm, flat burnisher. (Fig. 15.)

Invest in sump, labial side down, wash out the wax, flux the matrix, trim the investment as small as possible, for solder is more readily flowed when the investment is not bulky. Fill the invested matrix with solder cut in pieces sufficiently small to allow them to go into place. These pieces of solder should be dipped in creamed borax before they are placed in position.

Heat the investment from the bottom, using a bunsen burner and with a blow-pipe melt the solder down, adding more solder until it flows level with the lingual side of the model.

When cool remove investment and pickle in an acid bath.

Trim the inlay and partially polish, care being taken not to cut the marginal lap too thin.

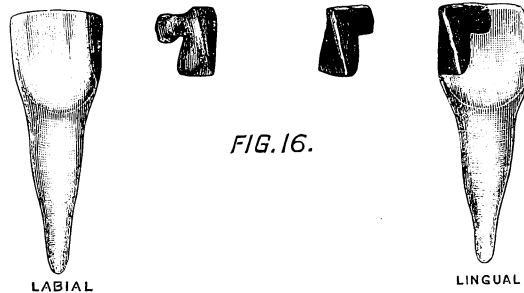
Roughen the inside of the inlay with a bur and cement in position, tying it in place with silk ligature, using only the first tie of a surgeon's knot.

Before the cement is too hard burnish the margin with a flat burnisher. Great care must be used in burnishing the inlay after cementation to prevent dislodgment.

When the cement has thoroughly set grind down to the margins with small, wet corundum wheels, and polish with sandpaper and cuttle-fish disk. The cervical margins are polished with strips. (Fig. 16.)

When grinding or polishing an inlay always do so toward the margins as this will have a burnishing tendency and produce a neater and more perfect margin.

Do not use carborundum wheels in grinding down inlays that have been set, as the grit of these stones is too coarse, and these wheels are liable to produce fracture of the enamel margins.



**Compound Cavities
in
Abraded Teeth.**

My treatment of abraded incisors or cuspids where a cavity exists on both the mesial or distal sides and it is desirable to connect such cavities as well as to protect the incisal edge of the tooth, is as follows:

Excavate the mesial and distal cavities and cut their floors flat, a square end fissure bur being found best for this purpose. Leave as much mesial and distal labial enamel as possible, cutting away the lingual enamel and dentine to a sufficient depth to give the requisite strength to the finished inlay. If the labial enamel be strong and thick, and it usually is, leave it standing, but bevel it from within, outward, so that the gold will lap at the cutting edge. Cut two shallow grooves in the mesial and distal floors of both cavities, those grooves running labio-lingually. These grooves should be of sufficient depth so that when the matrix is burnished into them and thickened, two pins will be the result. (Fig. 17.)

Polish the enamel walls with a cuttle-fish disk, care being taken that no sharp angles remain, as they will surely tear the matrix on the margin, and I have found no satisfactory method of mending such a tear.

ITEMS OF INTEREST

Take a piece of matrix gold formed in the shape of the letter U and pass the ends up between the cavities and the approximating teeth. Force wet cotton between the matrix and the adjoining teeth, thus carrying the gold to the walls and floor of the cavity. Mallet this wet cotton with orange-wood plugger in the automatic mallet, burnishing and malleting the matrix to the incisal surface of the cavity. Remove the cotton from one side of the tooth and burnish the matrix to the margin floor and grooves. Replace the cotton in the side just treated, and treat the



FIG. 17.



FIG. 18.

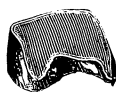


FIG. 19.

other side in the same way. The cotton on the one side holds the matrix in place while the other is being burnished.

Remove the matrix and trim approximately. Anneal and return the matrix to the cavity and carefully reburnish to the floor and walls, seeing



LINGUAL



LABIAL

FIG. 20.

that the gold extends over and laps the gingival borders. Burnish well into the grooves, in the floor of the cavities. The gold will tear when burnished into these grooves. Mend these tears with gold pellets.

Remove the matrix and thicken with 22-karat solder, care being taken that the solder does not run over the margins nor get on the cavity side of the matrix. (Fig. 18.)

Return to the cavity and reburnish, being sure that the thickened matrix goes well down to the bottom of the cavity before any attempt

is made to use the burnisher. Dry the matrix and take an impression in dry-heated modeling compound. Chill the compound thoroughly, and withdraw from the mouth, the matrix clinging to the compound as it is withdrawn.

Run a model in sump and remove the compound by heating in *water*, care being taken that the matrix is not loosened from the model during this process.

Take a strip 1-1000 pure gold annealed, as wide as the tooth from its cervical border to the cutting edge; bend this in the shape of the letter U and pass the free ends between the matrix and the adjoining tooth. Press it to the labial surface with the finger, attaching it to the matrix with hard wax melted and dropped from the lingual side. Burnish this piece to the adjoining teeth so as to produce contour, and trim the excess that sticks out on the lingual side with scissors. Form this contour piece just as it is desired to have the finished inlay, building up the lingual surface with wax, but do not cover with gold. (Fig. 19.) Cut the tooth from the model and invest, in sump, with the labial side downward. Wash out the wax and carefully flux the matrix. This should be done with a very small camel's-hair pencil dipped in fresh creamed borax made from lump. Heat up the investment from beneath and proceed to fill with 22 or 20 karat solder. Remove the inlay and cut the contour piece from the labial side. Trim, polish the approximal surfaces fitting to place. Leave only a slight marginal lap at the gingival border, and this must be trimmed very thin, for if it is left thick it will be difficult to polish after the inlay has been set.

Roughen the inner side with a bur and set with cement. Keep the tooth and cavity dry with a napkin or bibulous paper, etc.

Allow the cement to set for about thirty minutes before finally grinding and polishing.

The gingival borders are polished with strips and the other part with sandpaper and cuttle-fish disks. (Fig. 20.)

Nitrous Oxide vs. Somnoforme.

By HARVEY E. HARRISON, D.D.S., Chicago, Ill.

For over half a century nitrous oxide gas has done more to lessen the sum of human suffering than all other general anæsthetics. During this time it has been the sheet anchor of the dental profession, for with its advent "the fiercest extremity of suffering has been steeped in the waters of forgetfulness and the deepest furrow in the knotted brow of agony has been smoothed forever."

ITEMS OF INTEREST

True are the words of the late Prof. Samuel D. Gross "If America had contributed nothing more to the stock of human happiness than anæsthetics, the world would owe her an everlasting debt of gratitude."

On discovering the anæsthetic properties of nitrous oxide, Horace Welis exclaimed, "A new era in tooth pulling!" How prophetic were his words! The hitching straps of surgery and its concomitant terrors were relegated to dark ages and the science of medicine and of dentistry took long strides forward.

Under the teachings of Dr. Colton, nitrous oxide became popular both in America and Europe, but owing to the crude methods of administration anæsthesia could be maintained but for a limited period; hence, the employment of nitrous oxide was restricted to short surgical operations, but, with the advent of nasal inhalers the possibilities of nitrous oxide have become unlimited. With nitrous oxide as an anæsthetic operations in the mouth, never before attempted, are accomplished with comparative ease; the period of available anæsthesia being from two minutes to an hour with but little discomfort to the patient.

The bulkiness of the cylinders is the one objection to nitrous oxide. This is not a serious objection to the city dentist, but applies especially to the itinerant dentist or those in smaller towns. During the last twenty years efforts have been made to obtain an anæsthetic that would overcome this feature. One of the results was the so-called "vitalized air," a mixture of ethyl bromide, ether, alcohol and chloroform. Shortly after another "proprietary anæsthetic" was launched under the euphonious name of "Soporative." The proprietor of this marvelous agent claimed that it was the research of a lifetime and that "heart disease, pregnancy, lactation, menstruation, kidney troubles and old age were no drawbacks to its administration," but shortly after this alluring literature was sent out a dentist of Brooklyn had the misfortune to lose a patient from its administration and "Soporative" fell into disuse. The preparation was analyzed by Prof. Henry Trimble, of the Philadelphia College of Pharmacy, and was found to contain bromide of ethyl, 99.13 per cent; alcohol and oil of rose, 0.87 per cent.

Ethyl chlorid, formerly used as a local anæsthetic, recently made its debut as a general anæsthetic, masquerading under the name of "Narcotile" and other fanciful titles, but it did not seem to live up to the extravagant claims of its sponsors. Dr. Rolland, of France, conceived the idea of adding ethyl bromide to ethyl and methyl chloride, giving the mixture the name of "Somnoforme." This was introduced to the profession during the World's Fair at St. Louis, 1904. From the chaotic state of the

literature on this preparation it is difficult to give its exact status as an anæsthetic. It is unfortunate that any agent intended to ameliorate the suffering of humanity should become so engulfed in commercialism and be exploited with nothing in view, seemingly, but the dollar mark.

The literature sent out contains misleading statements that are not supported by facts; all of which has a tendency to create a disregard for the dangers incident to the administration of a general anæsthetic. We are sometimes prone to forget that a precious human life is entrusted to our care. Somnoforme has been used by some of the most prominent physicians of Europe, and as their prominence will preclude any ulterior motives I will take the liberty of selecting extracts from some of their papers.

Dr. Ralph Hopton, anæsthetist to the General Infirmary, of Leeds, England, says in part: "As a rule, the use of somnoforme is perfectly free from after effects. They do occur, however, in my opinion, more frequently than with gas, possibly owing as yet to its not being given in the best way. Largely on account of these after effects I do not think somnoforme will supersede gas. . . . The rosy color of the features is markedly in contrast with the cyanosis of gas, and no tendency of the twitchings and convulsive movements, as with gas."

Dr. Vernon Knowles, L.D.S., of London, England, states in a recent paper that nausea is not infrequent and says: "A case of sickness or complaint is most unusual. When sickness has occurred, it has been due, I am convinced, leaving out the question of diet, to blood entering the stomach. A much larger quantity finds its way there when somnoforme, rather than gas, is employed." The claims that somnoforme produced less hemorrhage than gas are difficult to be reconciled in Dr. Knowles' statement.

Dr. W. J. McCardie, anæsthetist to the General Hospital, Birmingham, England, in an article in *The Lancet* of April 4, 1903, says in part: "The only after effects that I have observed are headache and sickness. Headache is not very common, but sickness is decidedly more common and persistent than with nitrous oxide. It (somnoforme) is not to be preferred to the gas (nitrous oxide) in routine practice, though it is of advantage in cases where prolonged methods of anæsthesia are not available. . . . Seitz of Kronstanz collected up to the end of April, 1902, 16,000 cases of narcosis, of which I gather from him, 525 cases in England. In these cases there was one death. Since, some thousands of cases have been reported, amongst these being another fatal case. . . . I have tried this mixture (somnoforme) in eleven cases and could find in its action no practical difference from that of ethyl chloride,

ITEMS OF INTEREST

with the added disadvantage of an unpleasant garlicky smell, caused by the ethyl bromide."

Dr. Frederick Hewitt (anaesthetist to His Majesty the King) in a paper which appeared in *The Lancet*, says in part: 1.—Ethyl Chloride. —"Many patients object to its odor, even though the vapor be admitted gradually. It is a fairly good substitute for nitrous oxide, when this gas (N_2O) is not available. It is, however, somewhat uncertain in its action, sometimes answering every possible requirement, at others failing to produce anaesthesia. Its chief drawback is in the frequency with which it produces unpleasant effects, headache, nausea, vomiting and an indescribable feeling of depression. There is something almost characteristic in the distress which is liable to follow a full dose of ethyl chloride. As a routine anaesthetic for short dental operations it is distinctly inferior to nitrous oxide and oxygen, though it produces a longer anaesthesia." 2.—"So-called somnoforme does not produce such good results and is distinctly more dangerous; the effects produced by the two agents are, however, very similar."

Since Dr. W. J. McCardie's paper was written another fatal case is reported by Dr. Vernon Knowles, of England.

Nitrous Oxide and Somnoforme Compared.

From these reports, which are no doubt unbiased, we can form a fair idea of its worth. The reports appearing in the American journals are so misleading and contradictory as to render them worthless from a scientific standpoint. Two of these reports are selected from the latest journals and are fair representatives of the remainder.

Dr. B. H. Cooper, of Boston, Mass., in a recent article says in part:

1. "There have been in the neighborhood of 200,000 administrations of the gas 'somnoforme' and not one death caused by its use"

2. "The second remarkable feature is the total absence of cyanosis. The lack of any change of color will be appreciated by dentists who are called on to administer nitrous oxide gas to patients who are accompanied by nervous and over sympathetic friends, which friends have become so exercised over the post-mortem appearance of the sufferer that the whole acquaintance list of both were speedily informed of the horrors of gas."

3. "The odor of the gas (somnoforme) is sweet and pleasant, with no caustic action upon the fauces or larynx, and there is, therefore, no choking nor any sensation of suffocation, as with nitrous oxide."

In reply to the first statement I will say that the doctor is evidently not in possession of the mortality statistics of somnoforme.

Replying to the second statement will say that when nitrous oxide is properly administered there is none of the "post-mortem" appearance, no sense of suffocation, cyanosis, nor any unpleasant sensations whatever. When such symptoms occur it is due to faulty administration and not to the gas *per se*.

During the last six months I have administered nitrous oxide 2,500 times and had but two cases of cyanosis, one of which was during a clinic, where an inexperienced assistant gave more attention to the operation than to the anæsthetic. Cyanosis was, therefore, due to faulty administration. The second case was a morphine and cigarette fiend, and the gas seemed to have a cumulative action, which occurred after the gas was withdrawn. With the latest improved gas apparatus the cyanosis is eliminated, but if it occurs it is due, in my opinion, to faulty administration.

The third statement is so palpably erroneous that it would be an insult to the doctor's intelligence to accuse him of being unfamiliar with the physical properties of nitrous oxide, knowing as we do that pure N₂O is practically odorless. It is almost incredible that the doctor's clientele should prefer the garlicky and pungent odor of somnoforme to nitrous oxide, so we prefer to take the statement *cum grano salis*.

In an article in the *American Dental Journal* of December, 1905, Dr. W. R. Rathbone says in part: "In comparison with nitrous oxide the average induction is very much shorter while the duration is longer, thus allowing time for a better operation."

Its induction is much shorter than nitrous oxide and therein, no doubt, is the dangerous feature. A large majority of deaths from chloroform occurs during the first few inhalations, or during the first stage of the anæsthetic. It is not a question of how *quickly* nor how *cheaply* our patients are anæsthetized. Their safety should ever be the central thought. Nitrous oxide anæsthesia can be maintained from two to sixty minutes. The most ardent advocate will not claim this for somnoforme. Cyanosis seems to be the *bête noire* of the majority of nitrous oxide critics. This is due, in my estimation, to faulty methods of administration. With the nasal inhalers, or with oxygen and N₂O cyanosis is practically nil.

That any of these proprietary agents will ever supersede nitrous oxide, either in the estimation of the profession or in the hearts of a grateful public, is a possibility so remote as to be unworthy of serious consideration.



Dangerous Tooth Powders.

By F. ELLERTON SMITH, D.D.S., Binghamton, N. Y.

Nearly two years ago my attention was forcibly called to the danger to the reputations of many able and conscientious men of the dental profession by the tooth powders that are foisted upon the public by large concerns as perfect powders, the leading one, in my experience, being Dr. Lyon's (so-called) Perfect Tooth Powder.

I had placed two pieces of bridgework in the mouth of a young lady, the materials of which were 22K. gold of Ney's make and 20K. solder of same firm. In a few days the lady returned very indignant, declaring I had put brass work, gold plated, in her mouth. The plating, she said, had worn off, exposing a brassy appearance. I was dumbfounded, as an examination showed the gold to have a dull, brassy surface. I was at a loss to account for this except with the old explanation that there must be sulphur in the blood and the saliva contained sulphocyanogen in so large a quantity as to discolor the gold. I repolished the gold and dismissed the patient. Hardly had she left the office before another patient came in with large gold fillings that had precisely the same appearance, the work of another dentist of prominence in Binghamton. The lady wished me to take out the fillings and replace with *pure gold*. I questioned her in regard to whether she had shown the work to the dentist who had done the filling. She said she had and he said it was her blood. I then asked what medicines if any she had taken—she replied, none, saying she never used anything but Dr. Lyon's tooth powder. I noted this fact and called up by telephone my patient who had been in previously with the same grievance, and asked her what dentifrice she had used. "Dr. Lyon's," was the answer. I had her try it again, with the same result—a dull, brassy surface where the powder had come in contact with the gold. I then advised the abandonment of Dr. Lyon's for a simple chalk and orris root powder—results were gratifying, the gold remaining bright and perfect. Since that time I have carefully noted the cases which have come in, with the result that I have a list of prominent citizens whom I have told that they were using Dr. Lyon's Perfect Tooth Powder, to their astonishment, and explaining how I knew. I have also noted that in every case there was an undermining of the fillings in their teeth.

I have delayed calling the attention of the profession and public to this dangerous condition of affairs until I was well supplied with data and names of prominent people to back my assertions. Among the

names are some connected with the diplomatic and government service of the United States. I submit this in the hope that every dentist who reads this article will make a note of every case coming to his notice and send in to his society and journals his findings, that we may crush out those elements which endanger our professional reputation.*

Dentalone as an Analgesic.

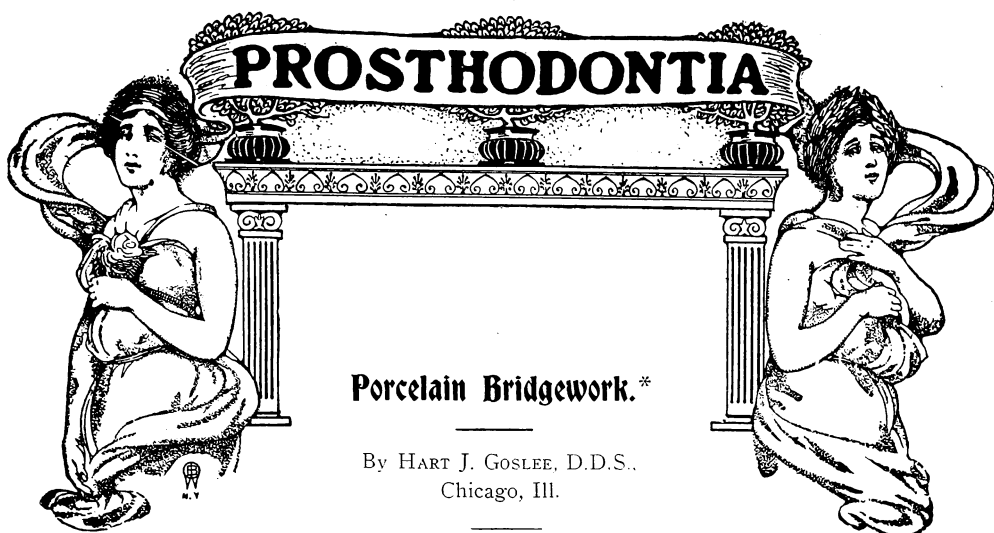
By ARTHUR B. CRANE, D.D.S., Washington, D. C.

Most manufacturers are too optimistic in recommending their preparations, but, with reference to dentalone, I am afraid Messrs. Parke, Davis & Co. are altogether too modest. The following report of a case in my practice will make my meaning clear.

Mr. R. was recommended to me for the extraction of a lower second bicuspid. After trying to remove the root, once under nitrous oxide gas and once with somnoform, without success, it became necessary to have recourse to chloroform anesthesia, during which the alveolar process surrounding the root was burred away and the root removed. The wound left by so many operations in the same field was of course very painful, and got worse from day to day as the slough formed. After exhausting everything on my medicine cabinet, including phenol sodique, carbolic acid, silver nitrate, zinc chloride, cocaine, and even a saturated aqueous solution of chlorotone, the wound was in a frightful condition; none of the drugs used had caused healthy granulation to set in, and certainly none of them had stopped the pain for longer than half an hour. In desperation I finally hunted through my supply of samples and found a small bottle of dentalone. I placed a pledget of cotton, moistened with the remedy, in the socket, and the pain was relieved as by magic. The patient insisted upon taking my sample bottle with him, so that he could replenish the cotton in the socket from time to time. He had no further pain, and the wound healed rapidly.

Since that experience I have had a stock bottle of dentalone on my cabinet, and have used it in many cases in which the tooth socket was inflamed and painful. It has never failed to relieve the pain instantly, and causes the rapid formation of healthy granulations. For painful inflammation after extraction there is nothing that can equal dentalone, combining as it does the anesthetic, antiseptic, and counter-irritant properties so essential to success in those cases.

*In the February number of *ITEMS OF INTEREST*, 1904, Dr. Paul B. Engel published a paper dealing with the causes of the discoloration of gold fillings, to which our readers are referred. He attributed the discoloration of fillings when caused by tooth powders to the presence of oil of wintergreen or other flavoring agents.—EDITOR.



The application of porcelain to the construction of bridgework may be recorded as being among the early achievements of modern dental ceramics, and while still perhaps in a more or less uncertain stage of development, it has nevertheless always been regarded by those who recognized its cosmetic and hygienic possibilities, as the ideal type of prosthesis.

Unfortunately, however, an early wave of enthusiasm following its introduction by Land, Parmley Brown and others, led to such general and indiscriminate use as to bring grief and discouragement to those who became overzealous, and who, while quick to appreciate its possibilities, were equally slow in recognizing its limitations.

As a result, a very large proportion of the primitive efforts in this direction were such signal failures as to dishearten even the most sanguine, and the progress and development which had previously seemed so desirable and so certain was thereby materially retarded.

For the reason that purely *cosmetic* and *hygienic* "possibilities," however, do not encompass the entire range of the requirements of dental bridgework, such a result was but a natural sequence essential to the experimental stages, and, since it is largely by our failures that we learn, this era of disaster and discouragement was by no means unproductive, for it served to develop the faculty of reasoning, and the power of discrimination to an extent which awakened recognition of the fact that porcelain has its limitations.

If it is conceded that all of the combined requirements in the com-

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PROSTHODONTIA

posite—and to the highest possible degree, must obtain in any class of work destined to be permanently successful; that porcelain is a vitrious and friable substance, by no means indestructible, and that inherent *strength* is one of the prerequisites of bridge construction—all of which are indisputable—it is then evident that porcelain work is not universally applicable, and that when it is employed a degree of strength commensurate with the requirements must obtain.

On the other hand, and irrespective of these facts, its application embraces so great a field of usefulness as to insure its permanency as an art, and this field, circumscribed though it may be, will increase in proportion as the aim for higher artistic attainment is cultivated and developed, and in proportion as a more definite knowledge of the limitations may be recognized, and the actual requirements observed.

Success or failure will therefore depend largely upon two factors; first, upon *judicious* application, and second, upon an observation of such details of technique as are essential to insuring a maximum degree of strength in the finished piece.

In order that the application may be judicious, however, it is obvious that the conditions must be favorable, and when they are not, or may not be made so, porcelain can not be conservatively employed and is therefore contraindicated.

Indications.

In studying the conditions which are favorable to the application of porcelain bridgework, the inherent physical characteristics of this vitrious, friable substance must be recognized, and whilst it is capable of withstanding stress to a degree, the stress to which it may safely be subjected will increase in proportion as its thickness or "bulk" may increase, and will decrease correspondingly.

It is therefore evident that the application of porcelain bridges is indicated only in such cases as present an extent of absorption and an occlusion which are favorable, or, in other words, a condition where ample space exists, for only under such circumstances may opportunity be afforded for the use of sufficient bulk to prove adequate to the demands for integral strength.

As the extent of absorption increases in proportion to the length of time elapsing since the loss of the natural teeth, together with the number which are missing; and as the application of "fixed" bridges to very extensive cases is rarely indicated, it is apparent that porcelain bridgework is more

Removable Bridges.

ITEMS OF INTEREST

generally applicable to *removable* structures where ample space, support and protection is afforded, than to bridges which are designed to be permanently attached to the supporting teeth, and when the application is confined to this class of construction the very highest type of cosmetic, hygienic and serviceable prosthesis may be obtained.

Under the same or similar conditions the application to "fixed" bridges, to which this chapter will be entirely devoted, may also be equally practicable, and offer the same advantageous features. In this connection, however, every opportunity for observing all of the combined requirements *must present*, and even then the most successful results will obtain by confining the application to smaller and less extensive bridges, or to parts of bridges in combination with gold.

Requirements.

Coincident with favorable indications the fundamental requirements of successful application demand a degree of judgment equally sound, and a degree of knowledge equally broad, and these must then be supplemented by a particularly painstaking observation of details. Indeed, in perhaps no other one class of mechanical procedure must every part of the technique be so carefully observed as in porcelain work, and a recognition and appreciation of this fact at the very outset, will form an impregnable fortification to the stronghold of ultimate success, for all whose ambition leads them in this direction.

Regardless of the previously mentioned more or less unfavorable characteristics of porcelain, a far greater number of failures in this type of bridgework can be attributed to an inadequate degree of knowledge, or to an indifferent observation of the details in connection with the requirements, than can ever be traced directly to the faults of porcelain itself. In fact almost any of the various makes and grades of porcelain compounds possesses the necessary strength and may be successfully employed provided the proper attention be given to the construction of the metal parts which are to form the substructure, before the "body" is applied thereto and becomes a part thereof.

Therefore, while it is true that much also depends upon the character of the porcelain employed, and still more upon its proper manipulation, yet since it is at best but a friable substance, and since little or no physical union obtains between it and the supporting structure, it is evident that the practicability of this class of work will always depend largely upon the support and protection afforded to the porcelain by the substructure.

PROSTHODONTIA

Substructure. For these reasons the substructure must necessarily be constructed in such manner as to afford a *strong, unyielding, well-adapted base* which will, first, mechanically sustain and support the porcelain part of the piece; and second, which will protect this porcelain against cleavage, and from the influences of stress, in all directions.

While the employment of platinum is of course necessary as a means of insuring a degree of infusibility which will withstand the temperature required to fuse any of the porcelain compounds employed for this purpose, the requirements of strength not infrequently indicate the use of iridio-platinum; and all of the various parts must then be assembled in a manner which will preclude the possibility of any subsequent change in their relation as a result of the shrinkage of the "body" in fusing.

The assemblage of the various parts of a bridge **Pure Gold as a Solder.** with *pure gold* as a solder, which was the former and is the common practice, has proven to be entirely inadequate to these combined requirements, when any of the higher fusing "bodies" are used. This is due to the fact that its absorption by the platinum at its melting point, or its volatilization at a higher temperature; or both, to which gold is susceptible in the furnace, absolutely precludes the making of strong joints, or of any reinforcement, and for this reason does not prevent a change of form as a result of the shrinkage.

Such a possibility may be entirely overcome, **Platinum Solder.** however, and adequate strength insured by employing 25 per cent platinum solder throughout the construction of the entire substructure, and including the attachment of the facings. As this alloy is ordinarily not disturbed in the fusing of the "body," a secure, strongly reinforced and reliable assemblage may thereby be effected, for which reason its use is universally recommended.

As a further means of insuring and providing **Providing for Strength of Porcelain.** for strength, the adjustment of the parts constituting the substructure must be made in such manner as to avoid unnecessarily diminishing the integrity of the porcelain to be subsequently applied. This may be accomplished by keeping all of the metal parts in such close proximity with each other as to preclude dividing the mass of porcelain through its center, or into small sections, which is always an element of weakness and must be avoided.

If the requirements of the metal substructure **Porcelain Compounds.** are thus observed it is evident that but little strength in the porcelain itself will be actually required, and

ITEMS OF INTEREST

hence, as previously stated, various grades of these compounds may be successfully employed if properly manipulated.

Owing to the excessive shrinkage of the so-called "low" fusing bodies, however, as compared with the less fusible compounds, the requirements of bridgework, where so large a quantity is to be used in obtaining contour, and where stability of form and color are so essential, will be best conserved by the employment of those classified as "high" fusing.

This is manifest for the reason that a minimum of shrinkage, combined with a maximum degree of stability of form and color, must necessarily facilitate and expedite the procedure. And those readily apparent advantages may also be still further increased by using *one grade* of "body" throughout the construction of the piece, instead of beginning with the so-called "foundation" and finishing with "enamel," for the reason that in the use of one grade, a more uniform shrinkage will prevail, and therefore if the piece is built up to the desired form and contour for the first bake, *two* fusings will usually be sufficient to complete the case, while in the use of two grades the uneven shrinkage will usually require three, or more, to produce the same finished result.

Application and Construction.

While all of the fundamental principles and requirements incident to the application and construction of fixed bridgework in general apply also, and with equal emphasis, to porcelain work in particular, yet, in addition thereto it must also be remembered that the details of construction should be even more closely observed, and more carefully executed.

If these considerations are recognized as being essential to success, and the application is made in accordance therewith, the scope of practicability, and of cosmetic possibilities, will be limited only by the capacity of the operator for exercising judgment in the application, and for acquiring skill in the details of construction.

Anterior Bridges.

Since the cosmetic requirements are of course confined mainly to that area of the arch which is within the range of vision, it is evident that the most prolific demand for porcelain bridgework will be in such cases as involve the replacement of any of the ten or twelve anterior teeth, but as applied particularly to all, or to any part of, the *six* anterior teeth *two* general types of construction are employed, though each one is subject to many variations.

These differ from each other *only* as relates to the employment of a "saddle," and while the best results in porcelain bridgework are usually

PROSTHODONTIA

to be obtained by utilizing this principle, there are cases where the amount of absorption which has taken place would not indicate, or admit of, the use of a saddle, and where the more simple form of construction would thus become necessary. It must be remembered, however, that even though a saddle may not be indicated there must, nevertheless, be room enough for a strong mass of porcelain or this type of bridge construction is contraindicated.

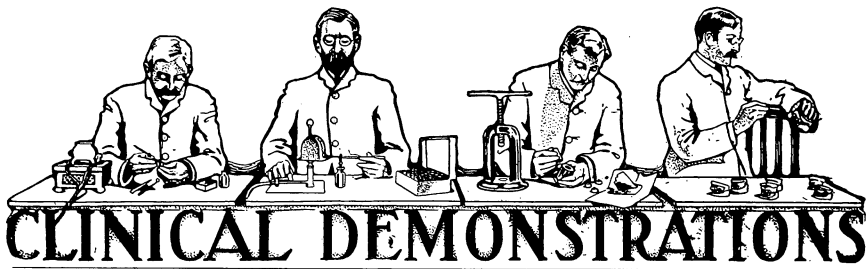
Methods of Attachment.

In either of the above-mentioned general types the methods of attachment to the supporting teeth must, as usual, be first determined, and their adaptation then effected.

While inlays made of 25 per cent platinum solder and applied in accordance with the requirements previously mentioned, or, some of the various other forms of attachment—also made with platinum solder—may sometimes be used to advantage still the possibilities for reproducing the natural crowns, together with the additional integrity and greater permanency afforded by the use of artificial crowns, will usually indicate the more or less general employment of the latter as “attachments” or “abutment pieces.”

When crowns are employed the roots should be prepared as usual, and the platinum cap, including the dowel, completed as previously indicated for single porcelain crowns.

Because of the additional requirements of strength incident to bridge construction, however, the band—if one is used—should be at least 28 g., and the floor in either instance should not be thinner than 32 g., and while the union of the band, the floor and the dowel may be made with pure gold—without precluding the subsequent use of platinum solder in the final assemblage of the piece—if *absolute contact exists*—nevertheless, the safest results will usually obtain from the use of platinum solder for this purpose also; and where a band is used the joint should invariably be *lapped* in either event, as a means of precluding the possibility of its opening in the furnace, as well as of insuring a maximum degree of strength.



A New and Valuable Method of Making Matrices.

By R. OTTOLENGUI, M.D.S., New York, N. Y.

I recently received from Dr. Emil Schreier, of Vienna, a suggestion which, after trial, I unhesitatingly pronounce to be one of exceeding value in the technique of all kinds of inlay fillings. There can be no doubt but that the stability of an inlay is much enhanced by the depth to which it may be introduced into the cavity. Heretofore in very deep cavities it has been necessary to lessen the depth by strata of cement or other material. Dr. Schreier suggests the use of what is known as gold beaters' skin. This is an exceedingly thin bladder-like material which gold beaters use when beating the metal into foil to avoid tearing.

In making a matrix the gold beaters' skin is placed on the under side of the foil and therefore next to the cavity walls. With ordinary care the gold can thus be forced to a very considerable depth without tearing. After the edges are thoroughly burnished the gold beaters' skin is easily removed and the matrix can be returned to the cavity for a final adaptation to the walls.

In the production of either porcelain or gold inlays by the so-called impression method the gold beaters' skin is of equal value, as the matrix material can be forced into deeper grooves and undercuts without tearing, than can be done without this protection, as the gold beaters' skin acts as a cradle to support the matrix while it is being carried to place.

Immediately after hearing from Dr. Schreier I communicated this information to a number of friends and one of these, Dr. R. M. Gaylord, of New Haven, Conn., while awaiting the arrival of some gold beaters' skin which he had ordered, experimented with fine China silk and found that it served the purpose admirably. I think, however, that this is too slippery and the raveling is also objectionable. Klewe & Co. likewise experimented with a very sheer muslin, and this is apparently better than the silk, but in my opinion not so good as the gold beaters' skin.

It has the advantage, however, that it can be used wet and will thus temporarily adhere to the under side of the gold, and if introduced into a wet cavity is less likely to slide about. There is, therefore, considerable value in this suggestion, especially as it is more readily obtainable than the gold beaters' skin.

The profession, however, is indebted to Dr. Emil Schreier, who has given us heretofore many valuable methods in dentistry, for this idea of using a cradle in connection with the making of matrices.

Unique Porcelain Operations.

By STEPHEN PALMER, D.D.S., Poughkeepsie, N. Y.

Clinic before the Connecticut State Dental Association, April, 1905.

The following described operations are, like numerous others, performed by members of the dental profession, unusual, and perhaps never to be duplicated in the practice of a lifetime. Yet they were ideas that occurred to the writer at the time. They filled the present requirements. They have withstood the test of time. They produced the desired results. They delighted the patients. They surpassed the most sanguine expectation of the operator.

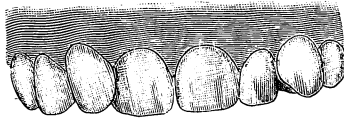


FIG. 1.

A patient, age 23, called, presented a case of irregularity as illustrated in Fig. 1, requesting extraction, or the teeth treated in some manner that would render them more regular. I advised the usual course of regulating, and an hour was appointed when the necessary impression might be obtained preparatory to constructing the required appliances. As appointed she came with the information that she was unexpectedly called away indefinitely and would leave the city in about four weeks, therefore regulating was impracticable, and as the teeth were all void of caries, my advice was to let them remain untouched, at least until a more opportune time, advice which was not heeded, but rather immediate correction by some plan insisted upon.

My first thought was to use jacket crowns, when the idea described below presented itself.

ITEMS OF INTEREST

I prepared the three teeth, as illustrated in Fig. 2, by cutting cavities across the labial surface near the gum margin, then following down the center, and across the cutting edge as shown in Fig. 3, taking care to cut all the walls perpendicular that the platinum foil used in making the matrix would draw freely as in inlay work. After thoroughly burnishing

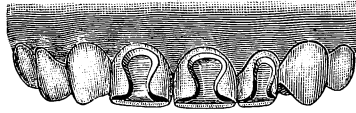


FIG. 2.

the foil in place it was removed and sufficient porcelain powder mixed and fused in it to retain the form of the prepared cavity, and allow of pressure being applied to hold it firmly in position when returned to the cavity, to burnish the foil accurately over the remaining labial surface of the tooth.



FIG. 3.



FIG. 4.

Selecting plate teeth of the proper size and shade, after removing the pins, they were ground out in the back, making thin veneers, which, when placed in their respective positions in the mouth, produced the desired contour and regularity.

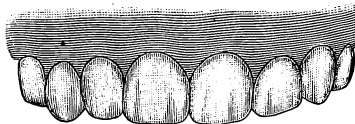


FIG. 5.

Placing the previously prepared matrix and fused porcelain in position in the cavity, more inlay powder mixed with "body liquid," was spread well over them, the veneer placed thereon, and all removed thus united, and after exuding the excess moisture placed veneer downward in fusing pan and baked until united. After a second baking to produce

ITEMS OF INTEREST

the required accuracy in joints and margins a veneer was produced as shown in Fig. 4, ready for insertion, which cemented in position gave the gratifying results shown in Fig 5.

In another case porcelain veneers were used to restore uniformity of shade in two conspicuously discolored teeth.

This patient presented with teeth in good state of preservation, the only imperfection being the inferior color of the right superior central and lateral incisors, which I was requested to remedy.

After examining and finding the teeth in a healthy and vital condi-

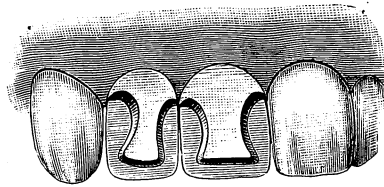


FIG. 6.

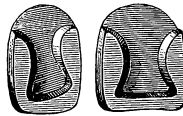


FIG. 7.

tion the veneer method was decided upon, similar to the first case above illustrated, except that advantage was taken of approximal cavities previously filled. I secured my retention as illustrated in Fig. 6, a variation from the previous case. The matrix was obtained as in the first case, but from this point, it being impractical to use teeth to obtain veneers, owing to the extreme thinness required, they were formed out of Jenkins' Prosthetic porcelain, which produced the veneer as shown in Fig. 7. The results are only to be appreciated when completed case is examined.

Accurate Adaptation of Upper Dentures.

By DR. FRANK C. BLIVEN, Worcester, Mass.

Clinic before the Connecticut State Dental Association, April, 1905.

This clinic is given to illustrate a method of making upper dentures by which they will retain their position in the mouth when in use.

Various experiments have been made to obtain a good fit with relative stability. One experiment frequently tried is the making of an upper



ITEMS OF INTEREST

denture from an accurate impression without treating either. The results have seldom been encouraging, as they will not retain their position when in use, though they may seem to fit the mouth. This method will not meet with success when the bones of the mouth are covered with deep, soft tissues.

But the varying conditions must be met according to their requirements, and success will depend entirely upon the knowledge of these varying conditions when intelligence is displayed in their treatment.

Air chambers, and other so-called suction appliances, are misleading and calculated to result disastrously to the patient, if not to the dentist who depends upon them.

A plate resting upon air or the lack of it, i. e., a vacuum, must necessarily have a very unstable support, since air or its absence as a vacuum is a flimsy support for anything we wish to maintain in a relative condition of stability. However artistic or ornamental an artificial denture may be it is of no practical value unless it will retain its position firmly in the mouth when in use.

There are other reasons than those mentioned for unstable artificial dentures, but the principle which this clinic purposes to illustrate is a fundamental one, which, when properly applied, will insure success.

The rule is whenever the tissues are hard carve the impression sufficiently to just clear the plate from pressure upon them when in use. Where the tissues are soft carve the model until the soft tissues are compressed to render the plate immovable upon the hard tissues.

Carve the upper side of projections sufficiently to prevent the air from entering beneath the plate when it has settled firmly into position. The same result may be obtained by building up the model with air-chamber material where the impression is trimmed.

Whichever method is employed the principle involved is the same and like results must follow.

The practitioner must not expect a complete success at the beginning, for only by practice can he acquire the necessary skill to compensate him for his earnest efforts.

I have used this method for years and can assure all who may adopt it, and apply it with good judgment, success in making artificial dentures, that will gratify both patient and dentist beyond their greatest expectations.

How to Make a Perfect Fitting Seamless Gold Crown.

By W. T. WALLACE, D.D.S., Henderson, N. C.

The first thing to do is to secure the proper appliances, which are as follows: A crowning system of drawplate, punches, dieplate, casting ring and metal tooth forms as furnished by the Consolidated Dental Manufacturing Company, N. Y. Besides the above you will need some fusible metal composed of five parts of bismuth, three parts of lead and two parts of tin. The impression material is composed of fine plaster, 12 ozs.; fine marble dust, 3 ozs.; whiting, 1 oz., and slightly tinted with powdered carmine and flavored with oil of sassafras.

Place the impression material in a tight tin can and mark "De Plastica" (or any fancy name), and always use same for taking impressions which will take sharp, smooth impressions, and the fusible metal can be poured without delay. Prepare the tooth or root properly, and if the tooth is badly broken down, after grinding it in proper shape the tooth should be built up with quick-setting cement. Then take a wire measure and remove and place over one of the drawpunches; then fit a copper band over the punch and cut the copper band to conform nicely to the gum line, and try on the root to see that it fits perfectly to root and gum. The band should be almost as wide as the articulation will admit.

Take the impression with band in place by using the "De Plastica" as described, but in mixing use a small pinch of sulphate of potash to hasten setting. Remove from the mouth, heat the metal and pour; separate and warm some beeswax; press over the model in liberal quantity; then place the warm wax in the mouth and get bite of several teeth in opposite jaw, then take impression of teeth in opposite jaw with the "De Plastica," and make model of the teeth in fusible metal. Mount both models with bite on articulator and you have something to work on as accurate as the mouth.

You next take a piece of gold plate, 28 gauge 22 karat, and for the bicuspid cut a disk the size of a dime and the size of a nickel for the molars; in using a 28-gauge plate always use a punch one size smaller than the hole in drawplate. Oil the drawplate with vaseline and have the drawplate and punches nicely polished and free from dirt. Draw the shells very carefully and anneal frequently until you have the drawn shell as small as the punch which the wire measure fitted. You now have a shell with a heavy grinding surface and the right size to swage. The copper band used in taking impression is placed on model with

ITEMS OF INTEREST

sufficient "De Plastica" to articulate with the opposite teeth and to be built up the shape to correspond with the teeth in the mouth so as to contour up properly. After getting perfect occlusion remove the copper tooth; place a piece of wood inside the copper tooth to fit nicely and extend one-half inch from the copper—place the end of wood in some soft putty up to the copper; fit a piece of writing paper in the slots of casting ring and cut out enough paper to form an arch over the model tooth; place the casting ring and paper over the model; melt the alloy and pour. The paper will divide the contour die; then remove pattern, oil the counter-die, place your gold shell and put counter-die in casting ring, warm enough modeling compound to half fill the shell and drive it in the shell by using a hard piece of wood with a mallet; remove and anneal and swage again as before.

If the tooth is swaged as much as necessary place it on the model and fit edge to gum line and close the articulator hard. Now dip in hydrochloric acid, rinse off, apply borax in cusps and melt 22-karat solder to make thick grinding surface; also use 22-karat solder inside the band part to make a stiff collar.

The above applies to all posterior teeth with the result of a perfect fit and as good an articulation as can possibly be made with two-piece work, does not take much longer, and is much less annoyance to the patient.





Gold Inlay Restoration of Bicuspids and Molars.

By JOSEPH W. WASSALL, M.D., D.D.S., Chicago.

Read before the Second District Dental Society, January, 1906.

Human teeth, generally speaking, are subject to two maladies, viz., caries, which attacks their hard structure, and periodontal inflammations, which impair their attachment to the jaw.

Modern dental practice is mainly concerned in the combatting of these two pathological processes. I shall speak to you tonight upon a phase of the former, describing a means of replacing lost dental tissue with gold inlays.

Gold Inlays Versus Gold Foil Fillings.

The past five years have witnessed a revolution in the filling of cavities caused by decay, the adoption of inlayed fillings as routine practice marking an epoch in the history of dentistry. It is true that such practice is not yet general among the rank and file, because men who have made gold foil operations the study and pride of a lifetime are properly reluctant to abandon orthodox methods.

Manifestly the plugger-made gold filling has by virtue of the pre-eminent skill and intelligence of its great masters exerted a most beneficent influence on civilized mankind. All honor to McQuillan, Atkinson, Webb, Cushing, McKellops and their disciples, whose names are immortalized in the annals of dentistry. It was the work of these men which first demonstrated the possibility of preserving the natural teeth to the end of a long lifetime. Their gold-foil operations established the standard for the whole world. Would that they could rejoice with us now in the blessings of better and less arduous methods.

ITEMS OF INTEREST

For convenience, the advantages of cemented inlays, over gold-foil and plugger-made fillings may be enumerated as follows:

1. Greater immunity to recurrent caries.
2. Greater resistance to occlusal and masticatory stress.
3. Increased strength of the restored organ by reason of the binding effect of the cement.
4. Perfection and certainty of contour restoration.
5. Diminished severity of pain induced.
6. Shortening of time of operation advantageous to patient.
7. Shortening of time of operation advantageous to operator.
8. Diminished toil.
9. Possibility of consigning the making of inlay pieces to the laboratory.

We will consider the above claims in their order.

1. The inlayed filling offers greater immunity to recurrent caries by virtue of its sealed cemented joint between filling and cavity wall. In the gold-foil, plugger-made filling no matter how skilled and

conscientious the operator, how perfectly the cavity is formed, how far extension for prevention is carried, howsoever well the gold is condensed and adapted, what time and labor are spent in every detail, there still remains after completion a filling without adhesion, with an open joint between gold and tooth structure. In some portions of the cavity wall this joint, in good hands, is microscopical; in other portions we all know it is at times an appreciable space. In all cases it is an actuality—a mechanically and physically demonstrable fact of each case. This space between cavity wall and filling undeniably exists and persists as a constant menace. It is the vulnerable point, and if caries recommences it will almost invariably be at some point of juxtaposition of gold and enamel.

What is the history of a gold filling? Take, for example, one of fair size, located approximo-occlusally—the kind whose offices are generally most needed—the kind one sees in practice every day in the mouths of people who possess the culture and means to give their bodies the best care, and made by dentists of acknowledged ability and standing.

For a brief period of one, two or three years the tooth is exempt from caries; in the next period caries invades its gingival border, and the filling is repaired by a small gold-foil patch. Caries is thereby retarded for a lessened period, and another small patch is soon needed. Caries recurs, is corrected, and recurs again, until after a decade the tooth remains a mere mosaic of gold amalgam and cement patches, of indifferent efficacy, the approximal surface having meanwhile been wasted by re-

peated polishings, which have only aggravated the cause of the trouble. Finally, the whole mass is replaced with an entire new filling, only to have the former process repeated.

Understand, this is not a general charge against gold-foil fillings. It is an explanation of why failures occur, when they do occur. Is it not sound reasoning to conclude that given an operation consisting of gold inlay perfectly fitting a properly formed cavity, and set with cement sealing the joint throughout, you have safer conditions? Do not the results of the observation and experience we already have bear out this view? They must, because it is truth, both theoretically and practically.

**Inlays Resist
Occlusal Stress.**

2. Inlays offer greater resistance to occlusal and masticatory stress by reason of the harder nature of the alloyed gold which is employed. Pure gold is soft and yielding, and the most perfect fillings made of it, when subjected to the normal jaw pressure for a period of years, which Black gives as from 150 to 250 pounds, alter in form sufficiently to fracture cavity walls or exhibit dangerous protrusion and overhang at cervical margins. Long-continued occlusal grinding will likewise impair and destroy the best condensed gold-foil surface.

**Advantages
of Cement.**

3. The support afforded by the binding effect of the cement used to attach an inlay is an appreciable and valuable factor in tooth preservation not enjoyed by the old method. Weakened walls are thereby united to the inlay, giving much needed support when, on the other hand, a plugger-made filling, under the same conditions, would always exert a menacing wedge-like force.

**Perfection
of Contour.**

4. The ease and certainty with which anatomical contour may be restored to approximal surfaces is one of the marked advantages of inlays. Contrast the subjective feelings engendered in our patients and the expenditure of our own time and strength by the old method with the perfection of results obtained in the laboratory by the new.

**Inlaying
Less Painful
than Filling.**

5. Lessening of pain. That in cavity preparation and the setting operation for an inlay, patients suffer less distress is at once conceded by the careful observer. In excavating for a gold-foil filling retention is usually secured by grooves or pits made in the most vital and consequently most sensitive dentine, while in shaping the cavity for an inlay this most sensitive dentine is not deeply encroached upon, or is indeed at once protected by the cement which is employed to "simplify" the cavity, as will be described hereafter. In

ITEMS OF INTEREST

other words, in the preparation for gold-foil operations, the tendency, often carried even to the danger point, is toward deep excavation into sensitive ground and the preservation of margins. In preparation for inlays the tender parts are protected early by cement, and the brunt of the work is upon margins. Add to this the enormous advantage obtained by the disuse and avoidance of rubber dams, polishing strips, paper disks and finishing stones. What untold agonies have been inflicted by their use!

Saving of Time and Labor.

6. That saving of time to patients in this busy life is of substantial monetary advantage to many goes without saying. The preparation of several cavities and the taking of impressions may be accomplished in marvelously quick time, as compared with the foil-filling procedures.

7. Shortening of time devoted to each appointment by the operator. Whatever conduces to make possible the treatment of more patients during given office hours contributes just so much to the sum-total of a day's work.

8. The fatigue induced by the old methods of foil filling has been the bane of dental practice! How many men we all know have gone down under the strain! Except in so far as it produced, even though at the sacrifice of life's blood, a sense of duty done, the "joy of working" was a feeling unknown to the honest worker of old. Inlay work is the emancipation of overworked drudges. Its whole tendency is to ennoble, uplift and dignify. Strike off the shackles of the plugger—relegate them to the junk-box.

9. The disproportionate amount of time he has unavoidably been obliged to give to manual labor has always been a millstone around the dentist's neck. The attempt to dignify plugger work by designating it as an "operation" or "manipulative procedure" is a species of mawkish cant. The filling of teeth with gold foil, occupying at it has 90 per cent of a dentist's life, has been an incubus fatal to any uplifting of his profession beyond a certain point—it fixed his status in his own and in the world's estimation. Some few practitioners, unable to longer endure such a position, have neglected mechanics for science; have even allowed themselves to become bad operators in order to announce themselves as specialists in a surgical or medical branch of dental practice. The introduction of inlay work now offers the profession a legitimate opportunity to better its standing, and really gives it a place among the liberal professions—a position not yet conceded to it except in the inaugural addresses of college deans or the valedictories of full-fledged graduates.

This great change is imminent because inlays may be made by trained workmen in the laboratory instead of the mouth, giving the practitioner opportunity to devote himself to the really scientific aspect of his profession.

It may seem supererogatory to devote so much time to a justification of inlays, but the fact that there is still much opposition to the abandonment of gold foil may be deemed ample excuse.

**Gold and Porcelain
Inlays
Compared.**

Inlay work as at present practiced employs two materials, porcelain and gold. In the author's practice porcelain is used in all visible cavities, as well as in bicuspid and molar cavities, in positions where the filling is not subjected to dangerous occlusal stress. For instance, porcelain is indicated in cavities located buccally, lingually and approximally in bicuspids and molars when they do not reach the occlusal surface. I am thus explicit in order that when I come to dwell particularly upon gold inlays I shall not be understood as making general application of a special method.

The gold inlay has one marked advantage over the porcelain in that the matrix becomes a part of the inlay, giving it an exact fit to the cavity, therefore requiring the minimum of cement. This is the very essence of the value of the filling.

The method of making gold inlays may be divided into four stages:

1. Preparation of cavity.
2. Impressions and bites.
3. Making of inlay in laboratory.
4. Setting of inlay.

The several forms of typical cavities in which gold inlays are indicated may be classified as follows:

- a. Simple occlusal.
- b. Simple approximo-occlusal.
- c. Compound mesio-disto-occlusal.
- d. Compound bucco-mesio-disto-occlusal.

The principles of cavity preparation have undergone important modification to satisfy the requirements of inlay work. Generally speaking there is a greater sacrifice of enamel, with a corresponding conservation of dentine, vastly, it is evident, to the benefit of the affected organ.

The corundum or carborundum point on the margins and walls takes the place of the excavating bur in the deep dentine. "Extension for prevention" is adopted by very compulsion.

As yet satisfactory instruments specially adapted to the new needs have not been put at our disposal, if indeed devised. Herbst, Jenkins

ITEMS OF INTEREST

and others have produced a few, valuable as far as they go, which are obtainable from the dealers. Individual workers have perforce developed new instruments and modified old ones to suit their own peculiar needs. Unfortunately very few of these good ideas are generally known to the profession. As matters now stand, precision, ease and rapidity of work require an entire new armamentarium—a demand which time undoubtedly will supply.

The mechanical principles involved in the new
Instruments Needed. cavity preparation point naturally and logically to engine tools modeled after a truncated cone. (Fig. 1.) This form, in a variety of sizes and of different bevels, should be given to engine points employing all the different cutting and abrading materials now in use: Steel burs, both excavating and plug finishing cut, all varieties of carborundum and corundum in different grits, diamond points, Arkansas, Hindostan, Scotch stones, etc.

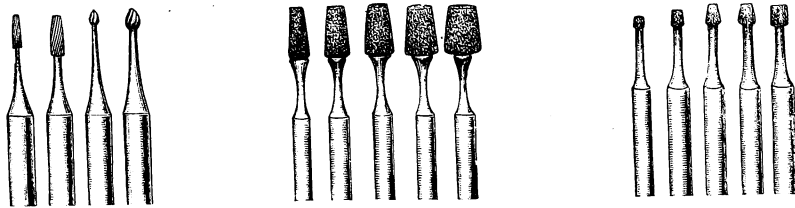


FIG. 1.

Small occlusal cavities originating in spaces left by incomplete union of developmental enamel folds, and in which the caries has not penetrated beyond the depth of the fissure, are by some of the unconvinced erroneously considered unsuitable for inlays. Such an opinion is the last hope of the foil worker who would cast an anchor to windward. These cavities are opened in the usual manner with chisels and bud or fissure burs. The "bud"-shaped bur, used entirely in the multi-angled hand piece, is peculiarly useful in such work. Engine tools are worked under a constant stream of water, the ejector carrying off the waste, both water supply and ejector being in charge of the assistant. Suspicious fissures are courageously conjoined to the main lesion, and the floor squared whenever permissible—the general principle of a divergent cavity wall being imperative. The bevel of the walls may vary according to the exigencies of the case in hand, considerable latitude being allowed. The shallowness of such cavities renders it necessary to provide retention of inlay by having the bevel very slight and the floor squared in at least one-third of the field of operation.

Allow me to digress, to emphasize here the **Cavity Preparations.** greater value of the filling material under discussion in these particular cavities over gold foil or porcelain—for the solid gold inlay may with impunity be finished to a thin edge and slightly overlie the enamel on its wide bevel. All margins are to be smoothed with truncated “sugar-loaf”-shaped plug-finishing burs, or bud-shaped Arkansas stones. The sugar-loaf plug-finishing bur is improved by the removal of its point. In larger, simple occlusal cavities—those in which caries has penetrated deeply or dangerously near the pulp or lateral walls, after first extending but not finishing the margins, let all broken-down tissue be thoroughly removed with spoon excavators and round burs. In the larger, simple occlusal cavities, proper disinfection being assumed, the deep parts and undercuts are filled in with oxyphosphate cement. This we term the “simplifying” process, because it facilitates subsequent procedure and protects almost entirely the sensitive surfaces.

The preparation of approximo-occlusal cavities is preceded by adequate separation, obtained by gradual “wedging,” with waxed linen tape, sometimes requiring weeks. When long-lost contours are to be restored, an interproximal “rest-plug” of gutta percha should be inserted, to remain a sufficient time to allow nature to adjust itself to the new occlusion and to permit the loosened teeth to recover firmness in their changed positions. The importance of devoting sufficient time to the wedging process is too often overlooked or even entirely ignored.

The preparation of approximo-occlusal cavities is begun by breaking down occlusal enamel and the extension of margins until all affected enamel is removed. Carious dentine is removed with spoons and round burs, and cement used to “simplify,” as referred to above. The process of preparation now has to do principally with the use of instruments of the truncated cone shape, to give proper form to the cavity, keeping in mind the ideal of horizontal floors, diverging walls and sharp, well-defined margins.

A valuable aid in this part of the work is the small round corundum or carborundum point, which has been dressed to the form of a truncated cone by having been revolved against a coarse file, drawn across it. Small spherical points are easily shaped in this manner. The cervical end of the cavity should be at right angles to the tooth’s long axis, or indeed even deepened slightly towards the pulpal wall. Unless the occlusal opening of the cavity extends into the occlusal sulcus, the natural enlargement of which should be utilized, the occlusal opening should be given a dovetail shape for anchorage. However slight a divergence of the walls is given in this direction a perfect lock retention is assured. The dovetail

locking device, as used in gold inlays, is to both the mechanical and moral senses one of the most substantial, satisfying gifts. There is perhaps but one other greater pleasure the inlayist is capable of experiencing—it is the contemplation of the secure anchorage presented by a mesio-occluso-distal gold inlay. The embracing saddle shape of such an inlay seems ample to withstand any possible strain.

Two distinct methods of making inlays are in general use. First: Burnishing or otherwise adapting the matrix directly to the prepared cavity in the mouth. Second: Making the matrix in a model obtained from an impression of the cavity. Some operators combine the two methods.

The author uses the impression and model method exclusively, on account of the greater accuracy of results, for he maintains that it is possible to obtain a better inlay, meaning perfection of fit, correct contour and occlusion, from the model in hand than by manipulation in the human mouth. It is unnecessary to see the patient from the time of taking of impressions until completion of inlay.



FIG. 2.

There is a shortening of time of operation—greatly diminishing nervous strain on both patient and operator, enabling more patients to be seen, and making it possible to delegate all the mere mechanical labor to trained artisans in the laboratory, where it can be better done by a skilled mechanic, who is unhampered by the responsibilities with which the busy practitioner is so often harassed and engrossed.

The procedure of taking the working impression is as follows: The material used in the author's own practice at present is a modeling compound made in Detroit under the trade name of "Perfection." It was first brought to his notice for this purpose by Dr. W. W. Walker, of New York. Formerly he has used base-plate gutta percha, and later "Fellowship" oxyphosphate cement, and had experimented but not succeeded with Ash's dental lac.

For an impression of a simple occlusal cavity a piece of the "Perfection" modeling compound about the size of a small marble is moulded to a conical form. (Fig. 2.) The base is chilled to hardness in cold water,

and the apex heated to softness in a flame. The prepared cavity being wet from the fluids of the mouth, the softened apex of the cone of compound is firmly pressed into it and there chilled with cold water, while still under pressure. Removal is simple.

For a cavity involving the approximal surface a matrix is employed to confine the material, guide it over the cavity border, sharpen the print of the margin, and facilitate the withdrawal of the impression after it is hard. (Fig. 3.) The matrix is conveniently made of copper of different thicknesses. When the space is adequate, it is often of utility to use two separate layers of thin copper, to be removed after the impression is hard, one at a time. The intercervical gingivus may be protected against the sharp edge of the matrix by placing a twisted wisp of absorbent cotton between the teeth. In withdrawing the impression the matrix should accompany it.

In taking impressions of mesio-disto-occlusal cavities a thin copper band (soldered joint) should encircle the tooth. After it is fitted the



FIG. 3.



FIG. 4.

band, which should be $\frac{1}{8}$ inch longer than the crown of the tooth, is filled even full of the impression material and pressed over the tooth and up to the gum, and chilled while still held in position. Then, by making slits in the copper on either or both buccal or lingual surfaces of the copper band (not always necessary), the impression is easily removed, together with its band matrix. (Fig. 4.)

The cavity impression being obtained, an ordinary "occlusion bite" should then be taken in ordinary modeling compound, and an impression in a small copper tray of the tooth operated on, together with such adjacent teeth as present abutting approximal surfaces. This may be called a "contour impression." The cavity and approximal space or spaces are now temporarily stopped with base-plate gutta percha, preceded by a cauterizing disinfectant, and the patient dismissed.

We now have a cavity impression, an occlusion bite and a contour impression, which are placed in a box specially provided, 4 by 3 by $1\frac{1}{2}$ inches. The patient's name is written upon it, the material to be used designated, and the time of the next appointment. The box goes to the

ITEMS OF INTEREST

laboratory, whence it is returned in due course, containing the finished inlay and all its accessories, viz., cement model of cavity, plaster articulation, occlusal model and plaster contour model and original cavity impression very often.

Technique of Making Gold Inlay.

We now move to the laboratory to witness the various steps in the manufacture of a gold inlay. The modeling compound impression is first set down or imbedded in plaster, and trimmed to a block form approximately $1\frac{3}{4}$ inches square, by $\frac{5}{8}$ inch thick. (Fig. 5.) This supplies a strong marginal platform around the impression upon which to manipulate the cement in making the model and also reinforces and safeguards weak points. The redundant impression material is trimmed away until little more than the margin remains.

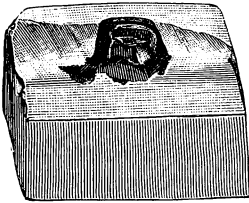


FIG. 5.



FIG. 6.

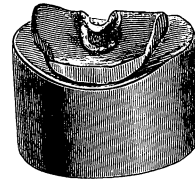


FIG. 7.

Cement Model.

The cement model of the cavity is made as follows: The imbedded modeling compound impression and its surrounding plaster platform are treated with fine talcum powder, carefully rubbed in, to prevent adhesion to the oxyphosphate cement, which is now mixed to a stiff, putty-like consistency, with its surface also treated with talcum. A superabundance of cement is used in order that sufficient pressure may be exerted to force the cement to take a correct imprint. (Fig. 6.) The cement top or model is removed when hard by prying it off with a knife-blade. A little experience will prove that only ordinary care and skill are required to yield mechanically accurate cement models. Given a true impression in the operating room, a true cement model must result in the laboratory. Each step in producing an inlay from this cement model and the guiding plaster casts is in accordance with laws and principles of mechanics which are absolutely positive and precise; in fact, like figures they never lie.

Cement Used.

An oxyphosphate cement, known as Ames' Crown and Bridge, is chosen as model material because thus far no other substance has proven so satisfactory in the author's hands. It reproduces, in material strong

enough to withstand the tremendous pressure of the hydraulic press swager, a cavity margin with sharply defined edges. Because of the hard vitrious quality possessed by this cement, it will permit of the bur-nishing of the platinum or gold matrix over its edges without fear of their crumbling or breaking down. Other materials, such as amalgam, both copper and alloys, are used for cavity models, but not with satisfac-tion by the author.

The cement model is now imbedded or set with plaster in the steel die cup (Fig. 7), which fits the hydraulic press. If any margins need defining the trimming should now be done with round burs in the engine.

The occlusion bite and contour impression are "run up" in plaster, separated and trimmed.

Components of a Gold Inlay.

A gold inlay is composed of, first, a swaged and burnished platinum matrix or cavity lining. Second, a swaged gold occlusal surface piece; and, third, the intervening gold solder. From which to make it the workman has before him—

1. The cement model in its die cup.
2. The plaster articulating bite.
3. The contour cast.

The matrix is made by partially conforming platinum a thousandth of an inch in thickness by means of cotton pellets and burnishers first to the floor of the model in hand, and afterwards to the walls and over the margins—leaving a convenient surplus extended well beyond or out-side the cavity limits. More perfect adaptation of the matrix to the model is now obtained by placing it in the powerful screw press, the plunger of which is a rubber water-bag, which in effect gives hydraulic pressure. In the deeper cavities pellets of cotton are packed into the matrix to re-ceive the pressure of the water-bag at the first swaging only. Any holes which may appear are of no moment because they are easily closed by adapting over them gold-foil cylinders and reswaging in the press. Twenty-two karat gold solder is now flowed over the floor to stiffen it, and it is again trued to the cement model by the press, and burnished. The stiffened trued matrix is now partially filled with flux wax and we are ready for the swaged occlusal surface.

The gold occlusal surface piece is obtained as follows: A bit of softened modeling compound is pressed into the cement model of the cavity, trimmed and carved to its margin. It is then placed in the plaster articulating bite and finally carved to proper occlusion, showing typical cusps, grooves, fissures and sulci. This gives us a form or model of the proposed inlay in modeling compound, which is now transferred back to the cement model of the cavity. A small piece of mouldine is pressed

ITEMS OF INTEREST

and adapted over it, which is followed by more moulding in the usual rubber ring. The model may now be removed and die and counter-die poured, from which a gold occlusal piece (Fig. 8), 36 gauge, is struck. This piece is now trimmed to fit the margins of the platinum matrix (Fig. 9), the carved modeling compound form being used as a guide.

We now have a platinum cavity matrix stiffened with gold solder, and a thin gold occlusal surface, which are to be joined—the intervening space being occupied by gold solder.

In making an inlay for any of the so-called compound cavities, i. e., those with approximal surfaces, the matrix and occlusal piece are exactly conjoined, with flux wax inside, leaving a stem of the wax projecting from the approximal surface. (Fig. 10.) The assembled piece is entirely invested in plaster and silex, the wax boiled out, the case trimmed, so that the whole approximal surface is freely exposed, and left open to receive the solder. Its interior is now filled with solder under the blow-pipe, it being important to make sufficient bulge to the approximal surface

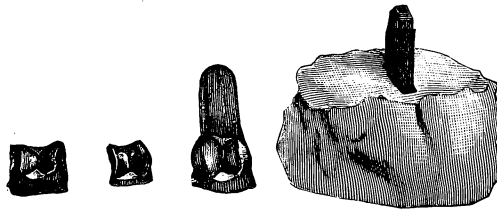


FIG. 8. FIG. 9. FIG. 10. FIG. 11.

to supply proper approximal contour, and to make due allowance for necessary trimming and polishing.

In making a gold inlay for a simple occlusal cavity two different methods of attaching the occlusal surface are employed. First, the platinum matrix alone is invested and the gold tip on the under surface of which solder has already been flowed is floated on the molten solder in the matrix and teased to place with an instrument in the other hand. Second, in large, thick inlays an opening through the floor of the matrix may be made and utilized to receive the solder, as in the compound cases.

Finishing and Setting.

The final polishing in these cases is easily and quickly accomplished, brushes alone sufficing for the occlusal surfaces. The under or cavity surface of the inlay is deeply grooved for retention with wheel excavating burs and vulco-carbon disks.

In cementing inlays to place the author invariably uses two assistants, one to play a constant stream of warm compressed air into

the cavity, and perhaps help hold the napkin or cotton rolls in the mouth; another to mix the cement. This leaves both the operator's hands free to again sterilize, dehydrate, and go over the entire inner surface of the cavity with spoon excavators, to insure absolute freedom from extraneous matter.

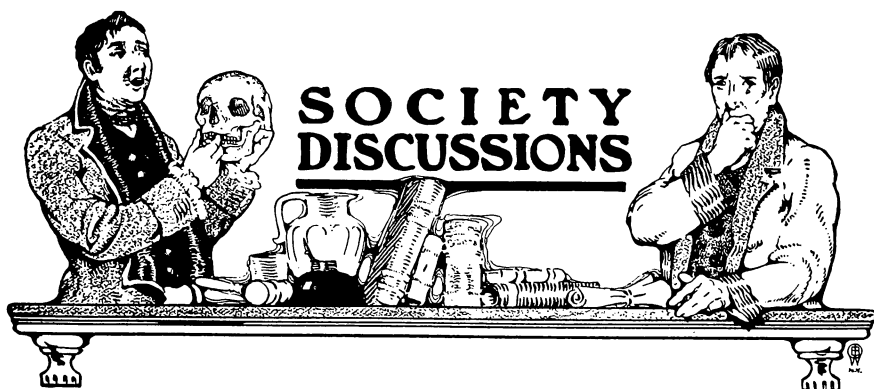
In the setting of a gold inlay, as a rule, it goes accurately to position, the margins fitting snugly. Considerable force is usually necessary to drive it home. This may be safely and confidently applied, using a hickory wood stick and smart blows of the mallet in striking contrast to the great delicacy required in setting a porcelain inlay.

To recapitulate, gold inlays are indicated in all positions when cavities in bicuspid and molars encroach upon occlusal surfaces.

Gold solder fillings are preferred to gold-foil fillings because caries is more retarded thereby—because they withstand stress better, and because, generally speaking, they increase tooth durability.

The impression and model system is adopted because the patient requires but two short appointments and the operator can delegate the manufacturing to trained craftsmen in the laboratory, more perfect results being there obtainable than in the human mouth.





Second District Dental Society.

January Meeting.

A meeting of the Second District Dental Society of New York was held at the Kings County Medical Society Building, Brooklyn, New York, Monday, January 8, 1906.

President Gould called the meeting to order and a quorum was found to be present.

The Secretary read the minutes of the last meeting which were approved as read.

Irving U. Miller, D.D.S., of 284 Henry street, Brooklyn, N. Y., was regularly elected to active membership.

Dr. William B. Hurd was unanimously elected to life membership.

On motion of Dr. Ottolengui the secretary was directed to send a telegram of sympathy to Dr. J. N. Crouse, of the *Digest*, in reference to the death of his son.

The President then introduced Dr. J. W. Wassall, of Chicago, who read a paper upon gold inlays.

At the conclusion of the paper Dr. Wassall proceeded to show lantern slides, illustrating the character of cavities where gold inlays are especially indicated, all of them being actual cases and tending to illustrate the principles enunciated in the paper, together with slides showing the entire method pursued by him from the time of the taking of the impression to the production of the inlay ready for the cavity.

Dr. Wassall also produced for the inspection of the members a number of specimens of his work, in various stages, and the president declared a recess of five minutes to afford the members an opportunity of examining them.

Discussion of Dr. Wassall's Paper.

I am naturally very much interested in this work because I have seen the actual results of Dr. **Ames, Chicago.** Wassall's method as explained here tonight. It probably seems that the doctor was rather sweeping when he said the plugger should be relegated to the past, yet I would not so much criticize his statement as I would the advisability of making it. A number of years ago I practically discarded the use of gold pluggers in my practice because I recognized the advantages to myself and my patients in the use of gold inlays for all large or complicated cavities. I did not in my work follow out exactly the method advocated by Dr. Wassall, partly because I was never a very ambitious practitioner of dentistry and never had a following warranting my keeping a number of assistants to carry out the detail work. I made gold inlays almost entirely by fitting directly to the tooth and building up, in most cases keeping the patient at hand.

I went through the various experiments of making inlays by various processes of getting the contour, and early in my experience used the method advocated and practiced by many now of making hollow inlays, a system by which a matrix is made and then an occlusal surface, tacking them together and filling more or less of the space with solder. The one point that I might criticize in Dr. Wassall's method is that in my hands I would consider it somewhat a waste of time to get up the occlusal models—the die and the counter-die—to strike up this small bit of gold for the occlusal surface. I have no doubt that as the work is turned out it has a more beautiful and more anatomically correct occlusal surface than I produced in my inlays, but I think if I were practicing the method I would simply strike up the matrix as he does and fill it with solder by some process, being satisfied with an occlusal surface less accurate anatomically. Some gentlemen of my acquaintance make gold inlays on some such plan as Dr. Wassall's, filling the matrix with moss-fibre gold, having the patient close the teeth on the gold, shaping it up somewhat afterwards and then filling the interstices with solder.

One of the advantages spoken of by Dr. Wassall in this method over a gold-foil filling is that you entirely do away with the question of properly starting your filling at the cervical margin as is the case in filling all approximal cavities with foil, and that in this work you can have a cavity with less depth pulpwise at the cervical margin than if you are starting a gold filling at that point. A toboggan-slide formation at the cervical margin would concern me almost not at all. I would not punish the patient to get a seat at the cervical region, the inlay being hung from the step anchorage.

ITEMS OF INTEREST

Dr. Wassall spoke of the putting of gold foil into the tooth, narrowing a dentist's disposition, and the more I practiced the system of attempting to save teeth with gold inlays the more I felt that way about it, and since I have been out of practise, as I have seen men in their offices packing small pieces of gold foil into teeth, it has seemed to me a procedure as much calculated to narrow a man's disposition as any occupation one can imagine.

I want to say a word concerning the extension of cavities. A large cavity is easier to operate upon than a small one; a cavity from which an impression will easily draw is much more easy to operate on than the cavity without the walls cut back to this extent, so that the extension of cavities to give a safe margin is a matter of *convenience* in this procedure more than in any other.

Cement for this technique work would usually be one which differs radically from the cement used in the mouth, for the reason that the cements which answer best in the mouth are those which are so constructed that they will shrink in a dry state and either be free of shrinkage in a moist state or have a slight tendency towards expansion, so that for technique work and making models which are operated on in the laboratory and are ordinarily dry from the time they are first made until finished, the cement should, theoretically, be one which neither shrinks nor expands in its dry state. Unfortunately such a cement has not the strength of the cements we use in the mouth so that Dr. Wassall's laboratory people practice something which he did not mention. They use for the model a cement which would be a proper one in the mouth and keep the model moist until they are ready to use it, and until they have finished with it. He spoke of using my crown and bridge cement, but what he really uses is a by-product of the making of my crown and bridge cement. Crown and bridge would answer admirably for the purpose, but in making crown and bridge cement powder there are certain parts in every batch which must be discarded and those parts are particularly adaptable to this work. This powder may be used with a liquid giving hydraulic properties and calling for moisture, or with a technique liquid without that precaution being necessary, greater strength being attained in the first instance than in the latter. A technique cement not requiring moisture would be more or less porous and give no shrinkage in a dry state nor expansion in a wet state.

I wish Dr. Wassall would explain when he closes the discussion the manner of using the solder, the way in which he flows it into the matrix after having struck up the grinding surface.

Special Cement for Inlay Models.

Dr. Ferris.

SOCIETY DISCUSSIONS

I wish to take advantage of this opportunity
Dr. Ottolengui. to make a public retraction. I met Dr. Ames once in the National Association where he read a paper advocating the use of gold inlays and in the discussion I ridiculed the idea that a gold inlay was of any value; and I am very glad that Dr. Ames is here to hear me say that I think they are of a great deal of value. Not long after I had antagonized Dr. Ames on that point a gentleman called at my office, who was on his way to Australia. He told me he had just had a tooth filled by Dr. C. N. Johnson, of Chicago, and I looked at it and was amazed at the effectiveness of it, and I was much more amazed to learn that it was a gold inlay. Since then I have been constantly studying inlays and have seen the work of the majority of men who are using them, and it was for that reason that I urged this society to have the subject brought before it tonight.

I have had the pleasure of being in Chicago and of visiting Dr. Wassall's office, and of seeing these inlays as he has not been able to show them to you tonight. They make a much greater impression on you when you can see a patient in whose mouth practically every molar and every bicuspid shows a perfect gold inlay with perfect edges and perfect occlusion as I have had the pleasure of seeing them in Dr. Wassall's office.

Dr. Wassall advises us tonight to do the work with one or two assistants who really do the work for us while we merely prepare the cavities and collect the money. (Laughter.) I was much impressed with that method while I was in his office and if I could get one of those girls he has I would adopt his method—and I am going to Chicago on Sunday. (Renewed laughter.)

I have tried the method of taking impressions and making inlays, and I hope still to succeed in the course of a few years in making perfect inlays by that method. I have also been using the method described at the Odontological Society by Dr. Hinman, and I am glad to know both ways.

I have found cavities where I cannot make a good matrix directly in the tooth, and I have found cavities of which I cannot get an impression and in which I could make a perfect matrix. Such a one I had today; I worked through blood and gore and when my work was finished I had a perfect matrix and I know I will make a perfect inlay. In working directly to the mouth there is this advantage, that it takes no greater number of visits and you can get a much more accurate set of occlusion models because the impressions are made with the matrix in the tooth.

ITEMS OF INTEREST

Gold Shot Recommended.

I found I was making quite a good deal of scrap from the gold that I use for the matrix and I conceived the idea of converting this scrap into little gold shot of different sizes; these can be dropped into the matrix and as they give off no oxide the solder flows freely about them; I think that is better than packing sponge gold in because the solder works around these little balls much more readily than it does through the sponge gold which is advocated in some cases. Moreover in case your inlay is not as full as you want it, you can drop one of these gold balls on, for a knuckle and flow solder about it.

Dr. Harlan.

I have lived in an atmosphere of gold inlays for a great many years; the late Dr. Swasey and Dr. Ames and Dr. Johnson and Dr. Wassall and various other members of the profession in Chicago have made inlays for a good many years, and there are one or two things I might ask Dr. Wassall. One is, do gold inlays preserve teeth better than gold fillings, and another, what is the relative cost in the expenditure of time, etc., in the making of gold inlays as compared with the making of gold fillings? I am satisfied that he will say that gold inlays when properly placed in teeth are less liable to cause thermal changes—and that is one advantage which has not been mentioned.

Dr. Wassall, in his description of making matrices, out of the mouth, said that he used paper pellets, etc. I have found in making matrices out of the mouth, from impressions that a very nice method is to incorporate the camphor method of Dr. Allen, of Kansas City, by taking one-third of paraffin and two-thirds of camphor and making it into a paste and packing that into the cavity, and you also can swedge it into the cavity with a Brewster or Ash swedger, and do not have any difficulty about carrying the inner surface of the matrix to all parts of the cavity.

Another advantage is that you can make, as Dr. Ames has said, the retention part of your filling in all the occlusal cavities in a way which obviates the necessity of cutting away a very great thickness between the approximal surface of the tooth and the pulp, thereby preventing severe thermal changes.

Dr. Jarvis.

I have not anything to tell you about the making of gold inlays because I never made one, so anything I might say would be purely from a theoretical standpoint. But they appeal to me very strongly, and especially so from a certain view, which has not this evening been given much prominence and that is from the standpoint of the patient. We all know that we constantly have to deal with large cavities in the grinding and

SOCIETY DISCUSSIONS

approximal surfaces of the bicuspid and molars which, if filled with amalgam, would discolor the tooth, and if filled with gold would make a very great demand upon the vitality and nervous force of the patient. In such cases, by the use of inlays, the teeth can be filled with gold so as to be strong and presentable, and the patient saved a great nervous strain which some of them should not be called upon to undergo. Then there is another class of teeth that we meet with, having very large cavities which, while not what would be termed loose, are not quite as firm in their sockets as we would like to have them, and where, to insert gold foil for some thirty or forty minutes, would indicate the exertion of a force and exposure of the socket to a strain of such a character as might further loosen the teeth, and this class of teeth can undoubtedly be filled by this method so as to be presentable and made perfectly useful and strong without the objectionable feature I have mentioned. Again, the strain upon the dentist should also be taken into consideration, and in the long and arduous work necessary to insert large gold fillings that strain is very great, while, by the use of the inlay, the preparation of the cavity is almost like play, judging from my experience in porcelain work. The preparation of the cavity for porcelain inlays is a pleasure compared with that of preparing the same cavity for gold foil, and the insertion of the gold inlay is, you may say, play again, because there is certainly no great physical effort required and it must be very much easier to insert a gold inlay than a porcelain one because so much force can be used upon a gold inlay without any danger of injury to it, and you all know very well that in inserting porcelain inlays we must use a great deal of care and judgment respecting the amount of force used. Therefore, gold inlays appeal to me very strongly, and I shall try them at once.

Will Dr. Wassall tell us how he assures himself
Dr. Ottolengui. of his approximal contact when he fills his impression through the side?

I believe that I am as intensely interested in
Dr. Cracy. the subject of inlays as most of my dental acquaintances seem to be, and I am sure any busy man will welcome a method that is destined to shorten the time necessary to fill a given tooth and which will also relieve him of much of the physical difficulty incident to such a filling. But if we try to discuss all the details of the technique of this work tonight I am afraid we shall never get through. There was a time when I abandoned entirely the taking of impressions for the making of inlays, because I felt that to get good results I must necessarily take my matrix from the cavity in the mouth. But more recently I have tried again and with better success. I have

ITEMS OF INTEREST

tried the cement for making casts, but did not succeed as well as Dr. Wassall evidently does. Then I tried investing the compound impression in plaster of paris in such a way that there was a little cup of plaster of paris around the impression itself. Then I plugged into that the amalgam which I am now using to make the working model. I think that method was brought to my attention by an essay read by Dr. Dills, in New York, a few months ago, and I believe he got his idea from Dr. Taggart, of Chicago. I think the amalgam must be better than cement, because it gets very hard and can be swaged upon after setting for two and one-half hours. I suppose you can get a cast quicker with cement, but by the amalgam method you have an impression on which you can swedge anything, and I would like to ask the experience of some others who are using amalgam and to learn if they find it equally satisfactory.

I have used gold and porcelain inlay fillings for
Dr. Fomburger. a number of years. Formerly I burnished the gold matrix into a cavity and then filled it in with solder, but of late I have used the swedging method, using an alloy die and using the method that Dr. Nyman showed at the First District Society last month. He made a shell top and had an opening in the matrix and flowed his gold solder in the opening. This gives an undercut, as it were, underneath which holds the inlay in place, giving ample room for the cement to hold. I have always thought an inlay was a more satisfactory means of filling a tooth than a gold filling, and have been using porcelain inlays for quite a long while, using gold inlays where I did not consider porcelain was applicable.

I have used amalgam for models, and I have
Dr. Wheeler. used the old copper amalgam. I have found it does not contract or expand to any appreciable extent and makes a very desirable swedging material. On the question of inlays and gold fillings my own belief is there is no comparison between the two. The support that comes from the cement around an inlay is of great value in improving the strength of the wall of the tooth; the ease with which the inlay is inserted saving the strength and nerves of the patient, and also of the dentist, and what is more important, the lasting qualities, I believe, of a well-made inlay are quite equal, or superior, to a gold filling.

I have, in my practice, inserted both gold and porcelain inlays, and I am satisfied that gold inlays are far superior to porcelain, as porcelain does not compare in any respect with the gold inlay for utility and length of service in places where the color will not be a disfigurement.

SOCIETY DISCUSSIONS

Dr. Ames seems to think we are not ready yet to abandon plugging instruments. Of course that is a question of opinion, but it is also a question of experimentation with people who have not used other methods than gold foil fillings. For myself I find I have no use for my gold plugging instruments; I do not think that I have made a gold-foil filling in two or three years. I have used gold foil perhaps within three months once or twice to make small patches in old gold fillings.

Dr. Jarvie. What about small cavities?

Dr. Wassall. There are no cavities so small on occlusal surfaces in which one cannot make gold inlays, and it can be done for very young children too.

Dr. Ames also thought that the details of striking up the occlusal surface, making the dies and counter-dies, etc., is taking too much trouble for the result obtained. There is nothing so pleasant about a gold inlay as having a beautiful occlusal surface; there is nothing so difficult to get as a good occlusal surface unless you carve and "strike it up," and solder it on. It is a long, tedious process to carve the gold itself to proper occlusal shape. But the swaging is not so very much trouble unless you do all the details yourself. There is probably not any man present who has not sufficient practice to afford an assistant who will do just that kind of work. A very small salaried person can make dies and counter-dies; an intelligent boy of fourteen years, or an intelligent girl of fifteen or sixteen can be taught to do all these things, and even can be taught to carve up proper anatomical surfaces for the teeth within a week, and to make impressions of them in metal and to make dies and counter-dies and so on. Boys that would make watchmakers and girls that take care of switchboards can be taught to do it within a few days, and within a few months will be so expert that they can earn a good deal of money for you and fair salaries for themselves.

Dr. Ames spoke of not being under the necessity of extending a cavity, in the preparation of approximal cavities towards the pulp—that he could have a toboggan-slide from the occlusion space down to the gingival. I do not think that is good cavity preparation, and I should find fault with it. It is rather difficult to get a good margin there unless you have a floor at right angle with the long axis of the tooth. He also spoke of moss-fibre gold being used by filling up the matrix with it and having the patient bite upon it. But you do not get accurate or beautiful results by such means. The beauty of the method I advocate is that there is so much of it that other people can do for us. The swedged occlusal piece made in the laboratory is far better than can be done at the chair.

ITEMS OF INTEREST

Dr. Ferris asked for some light on the casting of the solder. I do not know if I understood his question exactly, but I fancy he wants to know how we get the solder between the matrix and the occlusal surface. The matrix is partially filled with solder, the under side of the occlusal piece is covered with solder, the two are then assembled, put together with wax and invest (or not); you put in long pieces of solder which will reach to the bottom of the cavity, through the approximal opening, and those long pieces extend from the outside to the bottom of the cavity and under the blow-pipe the whole mass, as it is heated up, flows down.

Dr. Ottolengui spoke about the use made of young women in the laboratory, and threatened to get one of my girls when he comes to Chicago next Sunday, but if he knows how to do the work himself, and will take a little pains he can train an assistant to pick it up very rapidly indeed, as I have already said. These girls do every particle of work from the time the impression goes in its box to the laboratory until the completed inlay comes back to me, and they do it far better than I could because they do nothing else.

Dr. Ottolengui also asked me how we were sure of getting sufficient approximal contour in soldering these cases—he thought we had to guess at it. We do have to guess about the amount of solder we will allow to project from the approximal surface. They approximate it and try to get too much so that the polished-down surface will be about right.

Dr. Harlan asked me to answer some questions which he answered himself very nicely. He made a suggestion about a camphor preparation for swedging the matrix into the cement models which I shall experiment with at once.

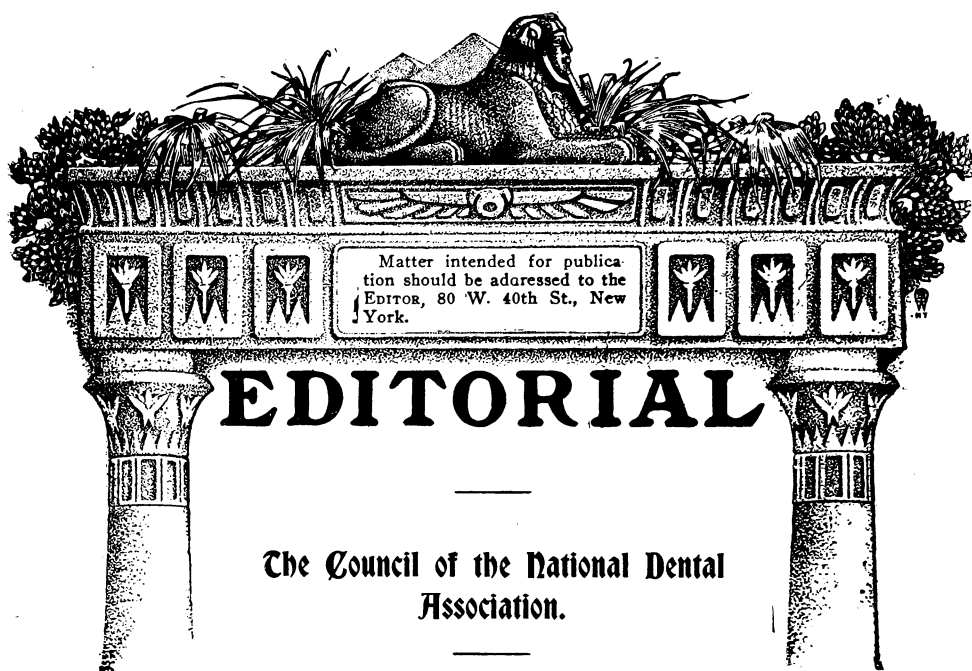
Dr. Jarvie spoke of the advantages of the inlay to the patient. Inlay work is of course a very great blessing to them, which they fully appreciate if they can recall their experiences with gold-foil work.

Dr. Tracy brought up the question of the amalgam model versus the cement model. I perhaps do not know how to use amalgam for getting a good model from an impression, but I have tried, and I have seen models made by some of the best exponents of amalgam. I do not think they compare with the sharp edges obtained by the use of cement.

Dr. Ames used the amalgam models himself at one time, didn't you?

Dr. Ames. A little—some years ago—copper amalgam models.

Dr. Wassall. Yes, and he abandoned it. However, I am perfectly willing to be convinced that there is something better than cement, and I hope that even amalgam may be, but I have not seen it yet.



The editorial published in our last issue has brought numerous letters of commendation, and one or two protests, the latter from members of the Committee on Legislation. These claim that the editorial was written without sufficient information as to the conditions; this, despite the fact that it was the longest and most important editorial ever published in this magazine.

Is it probable that the editor did not weigh the possible effect of his criticism? Is it supposeable that he did not fully comprehend that he was jeopardizing the passage of the bill? Is it likely that he is undesirous of seeing rank given to the dental surgeons in the army? Answer these queries in the affirmative and you convict him of a hasty and thoughtless act; but none will give affirmative replies.

Why then was such an editorial written, and published? Briefly because the policy of this magazine is to work for the betterment of the whole profession, and for the whole profession in preference to the advancement of individual interests, yea, even of the Army Dental Corps.

ITEMS OF INTEREST

Much as rank for the army dentist may be desired, the price demanded for it by this bill was too high.

Two things were wrong with the army bill. First, as drawn, it militated against Drs. Marshall and Olliver. No accusations were made; the simple facts were pointed out, and that they were facts is proven by the amendment of the bill in this regard. So much good at least has been accomplished by the editorial.

But the chief objection to the bill lies in the powers conferred upon the Council of the National Dental Association, a body which already has too much power.

The writer wishes it distinctly understood that he is not attacking individuals. Members of the Council are his warm personal friends. Others have his highest respect. He does not claim that a single individual has done any specific wrong. Nevertheless he is quite convinced that the Council of the National Dental Association, considered as a body, and weighed by its acts, is a menace to the welfare of dentistry, and that its existence has contributed nothing to the progress of dentistry.

It is a well-recognized psychological fact that an honest man, upon occasion, may prevaricate, with good purpose let us say; prevarications lead to fibs, and fibs later grow into lies; and a lie oft-repeated, comes to be believed by the liar, and is for that reason the more vicious in its consequences.

Origin and Power of the Council.

With a commendable purpose, the business of the National was removed from the general body, and given over entirely to the care of the Council.

One deadly error was committed. So anxious were we all to keep endless business discussions out of meetings that should be utilized for scientific debate, that we allowed a clause in the Constitution which provides for the acceptance or rejection of reports of the Council, *without discussion*. It is well known to skilled parliamentary tacticians that it is an advantage to have the affirmative vote with you. Thus, if the question be "Those in favor of accepting the Report of the Council, will signify by saying 'Aye,'" it is more likely that the report will be accepted than were the presiding officer to say, "Those in favor of rejecting the Report of the Council will signify by saying 'Aye.'" The majority of men are psychologically inclined to say "aye," and it requires



discussion and information to make them say "no," and discussion and therefore information as to the Reports of the Council, being prohibited, the Reports of the Council are accepted.

What is the result? An act is originated by the Council; is recommended in a report; the report, with no chance for discussion, is accepted. Then what? The act becomes the official act of the National Dental Association, whereas the National Dental Association, or the majority thereof, only grasp the full significance of it, months after.

The politicians in the National, no doubt, chuckle when they read this, for they have comprehended the situation since its inception. They saw at the very beginning, or very soon after, the power which the Council obtained by having its reports voted on without discussion. And this power has been used, and used, and used, until there is little doubt that they all now honestly believe that it is quite right that they should think and act for the National in all things. But there is a growing feeling among the members that they might like sometimes to think and act for themselves. There has been a murmur of discontent for a long time, but the murmur is growing into a growl, and when the people growl let the politicians take warning.

**Reform
of the National.**

Already there is talk of a movement to reform the National, and the first step in the program is to amend the constitution so as to abandon the Council.

Parenthetically, be it said, such an action would leave the Army Corps in a curious predicament if the bill should pass requiring that the examiners should be recommended by the Council, and then the Council should cease to exist.

But there is one difficulty with reform, which is always present. A few devoted ones inaugurate the movement; a few politicians out of a job join, shout loudly of their virtues, and get into office, and then—reform is worse than the thing reformed. One machine succeeds another. There is another alternative which need not be discussed thus early.

Reverting to the editorial, we had a right in behalf of the members of the National Dental Association to criticise a bill fostered by its own committee, which placed a power with the Council, which should rightly belong to the main body. The only excuse offered for this is that the

ITEMS OF INTEREST

Council can convene at any time, while the National Association cannot. But this is special pleading. Two examiners are needed; let the National recommend four, or six, or sixty; and there would be abundance of material from which to choose, without calling a convention either of the whole body or of the Council. Thus are the examiners of New York State appointed. The State Society—*not its executive committee*—recommends twice as many as are needed. Thus one may be chosen, and in case of death there is a recommended alternate.

There is no valid reason for placing this—in everyday politics the word would be “patronage”—in the hands of the Council except to increase the power of a body already too much intrusted with power.





I HAVE AN anonymous letter signed "A Friend," but I do not recognize the
 ✦ writing; (I know very few typewriter-girls anyway); so perhaps this
 ✦ letter is from "A Enemy." He says: "Your pessimism is rotten." "Amen
 ✦ to that," say I. "But what about optimism? There's a suspicious taint
 ✦ about that too." ✦ ✦

ROTTEN, IS A vulgar transcript of the word decayed; and here I venture
 ✦ a vulgar joke. Pessimism is the truth about the last decade; optimism
 ✦ is a hopeful prognostication about the future decade. ✦ ✦

YOUR FARMER plants a lot of seed. "What were they?" queries your
 ✦ Pessimist. "Mostly pumpkin seed," says the planter. "Then your crop
 ✦ will be mostly pumpkins," opines your Pessimist. "Oh, dear!" chirps the
 ✦ Optimist, "Let us hope they'll be muskmelons; muskmelons are so much
 ✦ nicer than pumpkins. They look very much alike anyway." And there's
 ✦ your whole trouble. What shouldn't be, looks so much like what should
 ✦ be, that the wisest among us is often fooled and lacks the wisdom to
 ✦ detect his own foolishness. ✦ ✦

IN SPECULATING as to the dental harvest it is important, therefore, to in-
 ✦ quire as to what seed we are planting, and to remember the well worn
 ✦ adage, "As ye sew so shall ye rip," or words of similar import. ✦ ✦

THE FIRST scattering of the dental seed occurs in the college, of course,
 ✦ and this brings to our minds the Faculty Fellows. I had started to say
 ✦ "Faculty Crowd," when it occurred to me that the two phrases express

ITEMS OF INTEREST

* quite different ideas. As Fellows, most all of them are worthy; as a
* crowd the Faculties are almost worthless. Perhaps you think that is
* a statement of an impossible proposition, and attacking me mathe-
* matically, as it were, you say, "The whole is greater than any of its
* parts," and you hold your head high and look sorry for me. But I used
* to be some on arithmetic myself in my day, so I remind you that an
* aggregation of units, however impressive at first sight, may consist of
* one or two numerals, and a number of naughts. * *

* * *

THERE ARE A lot of funny things about the Faculties when you come to
* think it over. A Faculty is supposed to be a body of teachers; yet some
* of these bodies have no real teaching faculty whatever. This furnishes
* food for thought, and some people's thoughts need a great deal of food
* in this connection, and the people I mean are right in the Faculties.
* And that itself is worth thinking about. * *

* * *

THE FACULTY Fellows, as I said before, are many of them right nice folks.
* I'd dine with quite a number that I know, especially those that own their
* own colleges, because those Fellows have money, and so the dinner
* would be right. The other ones you see, mostly University chaps, work
* for a salary, and so they have to be more careful; dinners with writing
* fellows, can't be charged to infirmary expenses, nor to the college ad-
* vertising account. * *

* * *

YOU THINK it strange perhaps that I like these Fellows, as Fellows, and still
* don't trust them much as a crowd. But you see the truth is, when they
* get together as a Crowd, or an Association (they don't really call them-
* selves a Crowd; they like the word Association better), but when they
* get together in Association, they don't trust one another over much.
* And in this world folks are appraised about at the value they set
* on themselves. There's your bunco steerer. He knows that much.
* "This is Madison Square," says he, puffing out his chest, and flicking the
* ash from his cigar butt. Then he adds, confidential like, "And I'm Mr.
* Madison." And he has such a way with him, that you not only believe
* his name is Madison, but also that he owns the Square. You certainly
* think he's on the square; which he is, only in one sense of the word.
* And this parable teacheth the value of having faith in one's self, a truth
* which the Faculties Crowd have not yet grasped, but then they are not
* bunco steerers—not all of them.

* * *

NO! THEY ARE just teachers; and as teachers, a good share of them are self
* taught; wrote their own diplomas, as it were. They teach in colleges;

ITEMS OF INTEREST

† but none of them has ever attended any college where they teach men
† how to teach. "There is no college where they teach dentists how to
† teach dentistry," say you, and you think I can't answer. But I can
† answer anything, especially when I write the question myself. The
† answer this time is easy. The Faculties Crowd, instead of rowing with
† one another, and with the Examiners Fellows, in their annual combats,
† should long ago have discovered that they need some real teachers in
† their schools, in addition to their professors. N. B.—A professor is a
† fellow that professes to teach. † †

✻ ✻ ✻

EVERY FIRST class hospital trains a lot of nurses, and gets service out of
† them at the same time. So, your real first class college might train a
† few men the art of teaching dentistry, and in doing so they might learn
† a little on the subject themselves. † †

✻ ✻ ✻

I CAN'T remember going to Sunday School myself, but when I grew big
† enough to wear a high hat and a frock coat, I guess I wanted the other
† creatures in frocks to take notice. Anyway I assumed the position of
† teacher in a Sunday school, and soon I found what an amount of as-
† sumption I had. I certainly learned a lot about creeds and catechism,
† because you see, the way those young American heathens catechised me
† made me study the creeds some myself to keep up with the class. † †

✻ ✻ ✻

OUR PUBLIC school system is a success because the teachers are trained
† for the work. So if a few real graduate teachers could annually be in-
† duced to study dentistry, and should be paid for studying dentistry with
† the idea of teaching dentistry as a life work, some day we might have a
† few real teachers, and later still some professors, by selection rather
† than election. But the rub is, these real teachers, would want real money
† for their work. † †

✻ ✻ ✻

WELL, WHY NOT? That question brings us to the skeletons in the college
† closets. And there are altogether too many skeletons, because there are
† too many closets, which means there are too many colleges. Each year
† there are about so many students, and there are too many colleges for
† that many students to support so that each teacher can live on his pay
† and afford the luxury of a couple of babies, or at least a puppy dog or a
† pussy cat, to keep the wife company while he is out, without the necessity
† of running a dental office of his own to keep square with the butcher, the
† bread fellow and his other neighbors. † †

ITEMS OF INTEREST

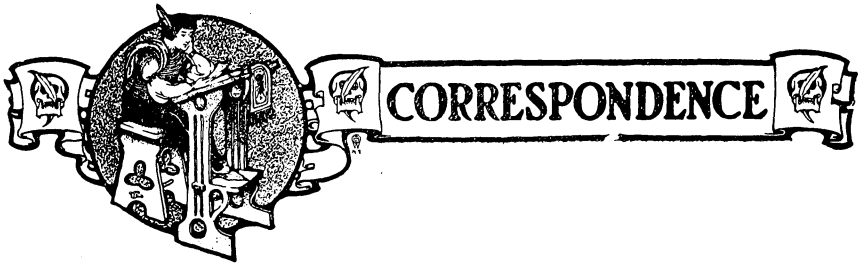
FOR YOU SEE, when a man finds he can get five dollars an hour filling teeth,
✦ he isn't going to be real keen about teaching the trick to a lot of strangers
✦ for about one dollar an hour. ✦ ✦

MAYBE HE takes the teaching job at first because the pay sounds a lot by
✦ the year. And the Dean, or the College-owner, or whoever buncoes him
✦ into the game always mentions the money that way. Four figures maybe!
✦ But after awhile, when he finds his meat bill must be met by the week,
✦ he figures up the number of teaching hours there are in a College year,
✦ and he divides that into his pay, and it goes about once, or perhaps twice
✦ —though not often. And when he thinks how much fun he could have
✦ at home in those hours with the baby, or even the pussy cat, he begins
✦ to hate his teaching job; and after that he isn't the best teacher in the
✦ school. ✦ ✦

OF COURSE, it's different, if he gets a share of the infirmary profits. But
✦ they tell me there are no profits in college infirmaries. I have that right
✦ from the Fellows that own College Infirmaries of their own; and they
✦ ought to be able to give me a straight tip—if they want to. ✦ ✦

SO I GUESS the only way to get enough pay for the teachers, so they could
✦ afford to do nothing but teach, would be to shut up some of the colleges.
✦ I think all the Faculty Fellows agree with me about that, only they get
✦ embarrassed when I ask them for a list of the colleges that ought to
✦ close. So I make a suggestion. When the Crowd get together this
✦ summer, they might make a rule to close five colleges a year for a few
✦ years. They could draw lots to decide, and I don't think there'd be
✦ much risk the first year or two. There are so few that ought to stay
✦ open, they'd be almost sure to escape. The Pessimist.





A Dream of Dental Education.

Editor ITEMS OF INTEREST, Dear Doctor:

When I decided to enter the profession I became an understudy to a D.D.S. of some reputation in our section. He was ex-President of the Southern and Texas Dental Associations; afterward Vice-President of the World's Columbian Dental Congress. Had also been head of one of those dental farce comedies—a judicial district examining board, so prevalent at that time in our State.

So, my dear reader, you can see I was forced to go some, should I ever reach the standard set for me.

Up to the present I have not been so fortunate, or unfortunate, whichever the case may be, as to be able to stand on the summit, and view the dental parade far below. It has been mine to look up at the other fellow.

After about three years looking after vulcanizers, polishing plates, sweeping office and making appointments it dawned on me that I was some in the dental line; all I needed to make a finish was a diploma, so I hied myself away to Baltimore in search of Aladdin's dental lamp in that form.

On reaching the city I sought the dean's residence, presented my credentials, paid five and wrote my name on the college roster. It was called matriculating.

After two years of five months each go as you please, one March day we were invited to be present on the evening of the 17th at Albaugh's Lyceum Theatre, when the diplomas would be presented.

First on the program was the presentation of the first honor medal, which was to go with its owner across the big pond.

The presentation of the second honor or silver medal was next on the list. We decided to keep that trophy at home, as we have since shown silver occupies quite a prominent place in the hearts of some.

ITEMS OF INTEREST

Next in line were those who were entitled to honorable mention. My lot was with that bunch. Then came the less fortunate ones. No doubt there were more brains in the last lot. After the play was over each man hugged his diploma and fared away to his quarters. He, no doubt, thought he was a dentist and there was nothing more to learn. I belonged to that class.

An Arizona sunset, tinted with all the gorgeous colors given to it by the brush of the Master, has never looked more beautiful to me than did the world at that time. Years have sped by. I have found how little I then knew of the great fundamental principles that underlie the profession, and ah, how little I now know! Yet I had made one vow to remain true to the profession if I starved in the doing.

In the beginning of each young man's career as a dental student teach him he cannot learn it all in ten months, ten years or a lifetime. It should be the duty of the preceptor or college to carefully note the qualifications of each student, and if found wanting in mechanical ability to tell him frankly it will be useless for him to throw away his time and his money, for he can never become a dentist. It is all rot to endeavor to teach a student to fill teeth with theory. Theory is essential to a genteel finish. Mechanical ability is paramount. Note the predicament of the Vermont Board. They have a case before them at present in which theory is *AI*, mechanical ability none at all.

Failure in this case was inevitable, but undaunted the man goes into practice under the protecting wing of Uncle Sam, and the board appeals to the journals for legal information in the case.

The fault is not with the board; they have partly done their duty.

The fault is with the college that graduated the student.

Colleges should have a mechanical preparatory department in which to test the mechanical ability of each student, and when a man is found wanting do not allow him to matriculate, and in the end be forced to meet the fate that has befallen the man in Vermont.

Teach the matriculate from the beginning of the course to the end of it that dentistry is not a bed of roses, and honors are only obtained by study, hard work, professional and gentlemanly conduct.

The presentation of diplomas is but the beginning and not the end.

In all probability more hats will fit than did on that night of March 17, 1892, or have fitted before or since.

I fully believe that through the teachings of the college the death of quackery can be accomplished.

Every college should work to that end, burying its mercenary spirit, should it exist; moving heaven and earth if necessary to place the pro-



CORRESPONDENCE

fession where it should belong. The profession is tied without the aid of the colleges.

The student thinks as his college does; so is it right for him to do. The men who occupy the chairs of our colleges are honored men in the profession. In their college work from a mercenary standpoint I do not believe they are far removed from the man who stands debarred from all the rights, lights and benefits of our dental associations.

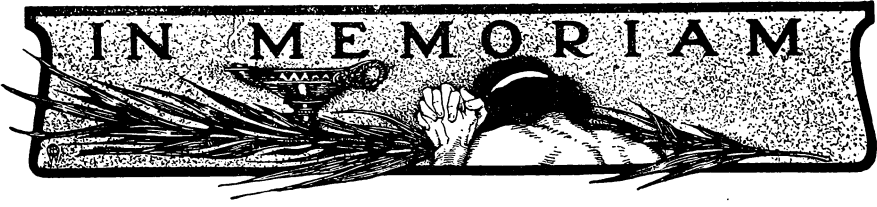
Each State should include in its university a dental department, refusing charters to others, and the university diploma should be the only one recognized by the State boards. This would throw a searchlight on the present condition that would be shocking, showing an admission of about 5 per cent that should never be allowed to matriculate.

That 5 per cent is the bog hole of the whole dental profession, demanding time, energy and money to offset their teachings. To go back a step, were it possible for a dental department to exist by law in each State university, the sale of diplomas by colleges that exist on paper only would cease; there would be no longer any need for State boards and dental reciprocity would be an established fact.

J. E. STOREY, D.D.S.

Morenci, Ariz.





Dr. Charles F. Allan.

Dr. Charles F. Allan was born in Cleveland, Ohio, November 2, 1844. His childhood and boyhood were passed in that city, where he was a student in the grammar school, and in the Central High School, from which he was duly graduated.

In 1862 he volunteered his services in defense of his country, becoming a member of Company H, 83d Ohio Infantry. After being mustered in at Camp Denison he was sent to the front, being placed in the Army of the Tennessee. He was actively engaged in the maneuvers around Vicksburg, taking part in the battles of Arkansas Post, Port Gibson, Raymond, Jackson, Champion Hills and Black River. He was orderly sergeant in the assault on Vicksburg, which city he entered July 4, 1863.

On account of illness he was confined to the hospital for about eight months, at Benton Barracks, and was then assigned to special duty in St. Louis, being thus employed until he was mustered out in the summer of 1865.

That same year Dr. Allan came to Newburgh and began the study of dentistry under his brother, Dr. George S. Allan, now a practitioner of New York City. Young Allan was engaged in practice with his brother until the senior Dr. Allan left Newburgh. Since that time he has conducted an office alone with the best success.

Dr. Nelson D. Edmunds.

Dr. Nelson D. Edmunds died in Los Angeles, California, September 11, of diabetes melitis, aged fifty-two years and two months. Dr. Edmunds was long and favorably known in connection with the Chicago College of Dental Surgery, where he was an instructor for ten years, after which he had a lucrative practice in Leipzig, Germany; but, owing to failing health, returned to this country about two years ago and located in Wilmington, Ohio, hoping the country life would benefit him. But, alas, in July he, accompanied by his wife and only child, went to California as a fulfillment of his last hope, where he died.



Dr. Luther W. Skidmore.

Dr. Luther W. Skidmore was born in Morris, Illinois, June 2, 1863. Thus at the time of his death he was almost 43 years of age.

During the early part of his life he grew to manhood and attended the normal school in his native town.

When nineteen years old he entered the University of Philadelphia, Pa., and graduated two years later, in 1884. The following January, 1885, he commenced the practice of dentistry in Moline, Ill., and for twenty-one years has maintained a reputation and example which is well worthy the following of any of our young or old, within or out of the dental profession.

Dr. Skidmore was not only closely identified with the State Dental Society, the First District Society of Illinois, the Tri-City Dental Society and the Rock Island County Dental Society, but was actively and energetically engaged in every effort toward the success and welfare of each and every society above mentioned. He served as president of nearly all of these societies, and was recently elected vice-president of the State Dental Society.

Dr. Skidmore was genial of disposition, kindly of heart and ever ready to help his fellowmen, which won for him a large circle of friends. He was a member of the Doric Lodge No. 319, of Masons; also of St. George Lodge of Knights of Pythias, and of the Modern Woodmen.

Dr. Skidmore is survived by his mother, Mrs. D. Hall Skidmore; his brothers, Dr. Wallace G. Skidmore, now of Minneapolis, and Byron G. Skidmore, of Moline, Ill., and his daughter, Alice.

In respect to the memory of Dr. L. W. Skidmore, of Moline, Ill., the Rock Island County Dental Society adopted the following resolutions, Feb. 27, 1906:

Whereas, The hand of Providence has removed from our midst our honored brother in the profession, Dr. L. W. Skidmore, and

Whereas, In his death we have lost one of our most active members, who until his death evinced a warm interest in the welfare of our association, and as a member of the various societies of the State he gave freely of his time and energy for their betterment and advancement, therefore,

Be it resolved, That we, the members of the Rock Island County Dental Society, desire and do express to his family our sympathy and sorrow in their affliction, and our admiration for the professional and

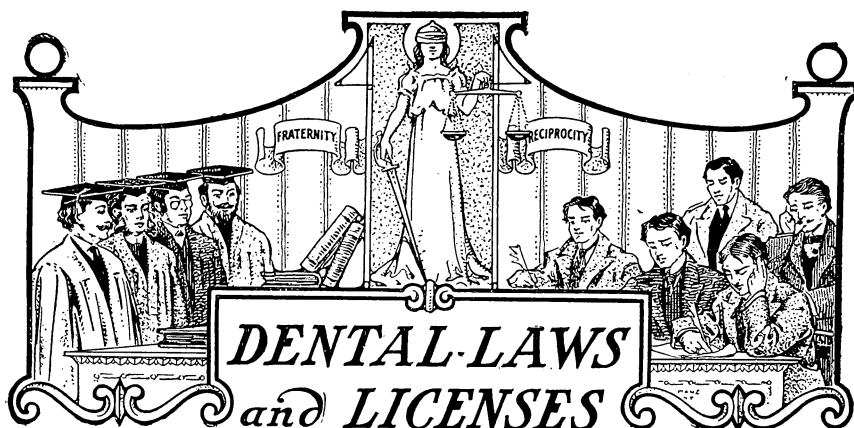
ITEMS OF INTEREST

personal qualities of our member; he was our friend, ever ready to extend a helping hand to a brother, and

Resolved, That these resolutions be spread upon the records of our association; a copy be sent to the family of our departed brother, and others to the dental journals for publication.

W. O. MAGILL, Chairman,
W. G. HAY,
H. G. TRENT,
Committee.





States That Interchange.

Arkansas reports no interchange as yet, but Oklahoma reports interchange with Arkansas.

District of Columbia interchanges with New Jersey.

Indiana interchanges with New Jersey.

Michigan interchanges with New Jersey and the Canadian Northwest Territories.

New Jersey interchanges with Indiana, Michigan, Tennessee, Utah and Vermont, and by special agreement with New York.

New York interchanges with New Jersey and Pennsylvania.

Oklahoma reports interchange with Arkansas.

Pennsylvania interchanges with New York.

Tennessee interchanges with New Jersey.

Utah interchanges with New Jersey.

Vermont interchanges with New Jersey.

Requirements for Licenses and Dates of Examinations.

Secretaries of State Boards are requested to keep us constantly posted in regard to dates and places of examinations or changes in their laws that this department may be kept up to date.

ITEMS OF INTEREST

Alabama. Examination required, with or without diploma. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations annually on the Monday before the second Tuesday in May of each year. Secretary, Dr. Thomas P. Whitby, Selma, Ala.

Arizona. Examination fee \$25. Secretary, Dr. Wm. G. Lentz, Fleming Rock, Phoenix, Ariz.

Arkansas. Examination with or without diploma; applicants must attain an average of 75 per cent to pass. Examination fee \$5. No special examination granted to practitioners already in practice; no temporary licenses. Oklahoma reports interchange with Arkansas, but the secretary of Arkansas reports no interchange as yet. Secretary, A. T. McMillan, Fifth and Main streets, Little Rock, Ark.

California. Examination required with or without diploma. Examination fee \$25. No special examination granted to practitioners already in practice. No interchange of license with any States. In the even years the summer examination will be held in San Francisco, beginning the second Monday in June, followed by an examination in Los Angeles the third Monday in June. In the odd years the summer examination will be held in Los Angeles beginning the second Monday in June, followed by one in San Francisco beginning the third Monday in June. The winter examination will be held in San Francisco beginning on the second Thursday of December of each year. Secretary, C. A. Herrick, Jackson, Amador Co., Cal.

Colorado. Examination granted to holders of diploma only. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations first Tuesdays of June and December, at Denver. Secretary, Dr. M. S. Fraser, 407 Mack Building, Denver, Colo.

Connecticut. Applicant for examination must have diploma, or must have had five years' instruction from a licensed dentist, or three years' practice as a legally qualified dentist. Examination fee, \$25. A special clause permits reciprocal interchange of licenses in accordance with the Asheville resolution. Recorder, G. M. Gilbert, 783 Main street, Hartford, Conn.

ITEMS OF INTEREST

Examination and diploma required in all cases.

Delaware. Examination fee \$10; \$1 for certificate. All applicants for certificates come under the same conditions. No interchange of license with any other States. Examinations first Wednesdays in January, April, July and October. Place of meeting given when applicant writes for the information. Secretary, C. R. Jeffers, New Century Bldg., Wilmington, Del.

Examination with or without diploma. Examination fee \$10. Reciprocal interchange of license with the State of New Jersey in accordance with the provisions of the Asheville resolution. Secretary, Dr. S. G. Davis, 607 13th street, Washington, D. C.

District of Columbia.

Examination required with diploma. Examination fee \$10. No special examination for practitioners already in practice. Examination, June 8, 1906, at Jacksonville. Secretary, W. G. Mason, Tampa, Fla.

Florida.

Examination required with or without diploma. Examination fee \$25. No special examination granted to practitioners already in practice. No interchange of license with any State. Secretary, C. E. M. Loux, Pocatello, Idaho.

Idaho.

Examination required with or without a diploma. Examination fee \$20. License fee \$5. No special examination required for practitioners already in practice. No interchange of license with any other State. Examinations twice each year, usually in May and October. Secretary, Dr. J. G. Reid, 67 Wabash avenue, Chicago, Ill.

Illinois.

Applicants for examination must possess diploma from recognized college or must have had five years' dental practice under a reputable practitioner of this State. Examination fee \$20. No special examination granted to practitioners already in practice. Reciprocal interchange of license with the State of New Jersey in accordance with the provisions of the Asheville resolution. Applications must be in hands of secretary by Jan. 5. Secretary, Dr. F. R. Henshaw, Middletown, Ind.

Indiana.

Examination required with diploma. Examination fee \$20. No special examination granted to practitioners already in practice. No interchange of license with any States. Examination, Des Moines, May 1-2, 1906. Secretary, Dr. E. D. Brower, Le Mars, Ia.

Iowa.

ITEMS OF INTEREST

Kansas. No examination required if applicant has a diploma from a reputable college; otherwise examination required. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Secretary, Dr. M. I. Hulst, Hutchinson, Kan.

Kentucky. Examination required with diploma. Examination fee \$20. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations first Tuesday in June and December in Louisville. Secretary, Dr. C. R. Shacklette, 628 Fourth avenue, Louisville, Ky.

Louisiana. Examination required with diploma. Examination fee \$25, payable in advance. No special examination granted to practitioners already in practice. No interchange of license with any States—Board has the matter under consideration. Examinations twice annually in New Orleans, first examination on the day following the commencement exercises of the New Orleans College of Dentistry. Second examination occurs on the first Tuesday after the third Monday in October. Secretary, treasurer and attorney, L. A. Hubert, 137 Corondelet street, New Orleans, La.

Maine. Examination required with or without diploma. Examination fee \$20. No special examination granted to practitioners already in practice. No interchange of license with any States. Next examination June 27-28, 1906. Secretary, Dr. Dana W. Fellows, Portland, Me.

Maryland. Examination required with diploma. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any State. Examinations occur twice annually in Baltimore. Next examination, May 14-15. Secretary, F. F. Drew, 701 N. Howard street, Baltimore, Md.

Massachusetts. Examination required with or without diploma. Examination fee \$20 for first examination, subsequent examinations \$5. No special examination granted to practitioners already in practice. No interchange of license with any States. Hereafter candidates for second and subsequent examinations will be required to fill out an application blank and forward it to the secretary as above. Every candidate for examination must be twenty-one years of age. Application blanks may be obtained from the secretary. Temporary licenses are never granted. The fee for third and subsequent examinations is \$5.00. Secretary, Dr. G. E. Mitchell, Haverhill, Mass.

ITEMS OF INTEREST

Examination required with or without diploma.
Michigan. Examination fee \$10. Practitioners already in practice may have a special examination before any member of the Board which will enable him to practice until the next regular meeting of the Board, when a regular examination must be taken. Reciprocal interchange of license with New Jersey in accordance with the provisions of the Asheville resolution, and with the Canadian Northwest Territories. Secretary, Dr. C. H. Oakman, 29 State street, Detroit, Mich.

Diploma must be presented from a dental college in good standing or satisfactory evidence must be given of having been engaged in the practice of dentistry as early as April, 1879. Examination fee \$10. No special examination granted to practitioners already in practice, and the Board has no power to grant temporary license of any kind. No interchange of license with any States. Examinations first Tuesday in April and October. Held at Dental Department of the State University at Minneapolis. Secretary, C. H. Robinson, Wabash, Minn.

Examination required with or without diploma.
Mississippi. Examination fee \$10. Practitioners already in practice will be granted an examination by any member of the Board, who is authorized to issue a temporary license which will be valid until the next succeeding meeting of the Board. Only one temporary license shall ever be issued to the same applicant. Examinations third Tuesday in May of each year. Secretary, Dr. P. P. Walker, Brandon, Miss.

Examination with or without diploma. Examination fee \$25. No special examination granted to practitioners already in practice. No interchange of license with any States. Examination, Kansas City, May 14, and St. Louis, May 28. Secretary, S. C. A. Rubey, Clinton, Mo.

Examination with or without diploma. Examination fee \$25. No special examination granted to practitioners already in practice. No interchange of license with any States. Secretary, D. J. Wait, Helena, Mont.

Examination required with or without diploma.
Nebraska. Examination fee, \$25, except to Nebraska graduates fee is \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. C. F. Ladd, Lincoln, Neb.

ITEMS OF INTEREST

Nevada. Examination required of all graduates. Examination fee \$25. No special examination granted to practitioners already in practice. No interchange of license with any States. Secretary, C. A. Coffin, Reno, Nev.

New Hampshire. Examination required with or without diploma. Examination fee \$10. No special examination granted to practitioners already in practice except by agreement of the full Board. No interchange of license with any States. Secretary, A. J. Sawyer, Manchester, N. H.

New Jersey. Applicant must be a graduate of a reputable dental college and hold a high school diploma or a certificate from the State superintendent of public instruction, Professor Baxter, Trenton, N. J. Examination fee, \$25. Reciprocal interchange of license with Utah, Tennessee, Indiana, Michigan and Vermont, in accordance with the provisions of the Asheville resolution, and by special agreement with New York. Theoretical branches in the Assembly Chamber, Trenton, N. J. Practical operative work at the office of C. S. Stockton, 7 Central avenue, Newark, on a date assigned by him. Practical prosthetic work at the office of Dr. A. Irwin, 425 Cooper street, Camden, N. J., on a date assigned by him. Secretary, Dr. Charles A. Meeker, 29 Fulton street, Newark, N. J.

New Mexico. Examination required with or without diploma. Examination fee \$25. Fee for certificate \$5. All licensed dentists within the Territory shall, on or before the first day of June of each year register with the secretary of the board, and shall pay therefor an annual fee of \$3. No special examination granted to practitioners already in practice. No interchange of license with any States. Secretary, C. N. Lord, Santa Fe, N. M.

New York. Diploma from a registered school is necessary for admission to the dental licensing examination. Applicants who have had six years' practice in dentistry may on unanimous recommendation of the Board receive a license to practice in this State provided they meet the necessary professional and preliminary requirements. Examination fee \$25. Reciprocal interchange of license with New Jersey and Pennsylvania. Next examination May 22-25, 1906. Chief, Charles F. Wheelock. Examinations Division, New York State Education Department, Albany, N. Y.

North Carolina. Examination with or without diploma. Examination fee \$10. No special examination granted to practitioners already in practice. Next examination, June, 1906. Secretary, R. H. Jones, Winston-Salem, N. C.

ITEMS OF INTEREST

North Dakota. Examination required with or without diploma. Examination fee \$10; additional fee for license, \$5. No special examination granted to practitioners already in practice. No interchange of license with any States. Examination, second Tuesday in July. Secretary, H. L. Starling, Fargo, N. D.

Ohio. The Board will register without examination all graduates of the Ohio colleges who make proper application and pay the required fee of \$10 prior to the June, 1905, session of the Board; all other applications must be graduates and pass examination before they can practice legally in Ohio. Examination fee \$20; registration fee \$10. There is an exemption clause which permits the Board to register a person who has been in practice in the State of Ohio continuously since January 1, 1903; this must be verified by evidence. Application should be filed with the secretary 10 days prior to examination. Secretary, H. C. Brown, 185 East State street, Columbus, Ohio.

Oklahoma. Examination required with or without diploma. Examination fee \$25. No special examination granted to practitioners already in practice. Reciprocal interchange of license with Arkansas. Secretary, A. C. Hixon, Guthrie, Okla.

Oregon. Examination required with diploma. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any States. Examination in November in Portland. Secretary, O. D. Ireland, 614 Dekum Building, Portland, Ore.

Pennsylvania. Examination required with diploma. Examination fee \$15. No special examination granted to practitioners already in practice. Reciprocal interchange of license with New York. Secretary C. N. Schaeffer, Harrisburg, Pa.

Rhode Island. Examination in all cases. Examination fee \$20. No special examination granted to practitioners already in practice. In regard to interchange the Board has recommended an amendment to the law giving the board discretion. Next examination June, 1906. Secretary, W. S. Kenyon, 301 Westminster street, Providence, R. I.

South Carolina. Examination with diploma. Examination fee \$15. No special examination granted to practitioners already in practice. No interchange of license with any States, but is not opposed to a satisfactory plan of exchange.

ITEMS OF INTEREST

Next examination at White Stone Springs July 13, 1906. Secretary, Dr. B. Rutledge, Florence, S. C.

South Dakota. Applicants for examination must have diploma or must have had three years' practice immediately preceding examination. Examination fee \$10; license fee \$5. No special examination granted to practitioners already in practice. No interchange of license with any State. Secretary, G. W. Collins, Vermillion, S. D.

Tennessee. Registers diploma without examination and examines all others. Examination fee \$5. No special examination granted to practitioners already in practice. Reciprocal interchange of license with New Jersey, in accordance with the provision of the Asheville resolution. Secretary, F. A. Shotwell, Rogersville, Tenn.

Texas. Registers diplomas and examines all others. Examination fee \$10. Temporary licenses granted to holders of diplomas between meetings of the Board; good until the following meeting. Temporary licenses granted to others after an examination by any member of the Board. Good until the next meeting of the Board. Fee for temporary license \$2. Secretary, C. C. Weaver, Hillsboro, Texas.

Utah. Examination required with or without diploma. Examination fee \$25. No special examinations granted to practitioners already in practice. Reciprocal interchange of license with New Jersey in accordance with the provisions of the Asheville resolution. Examination not yet fixed. Usually April and October. Secretary, H. W. Davis, 511-513 McCormick Block, Salt Lake City, Utah.

Vermont. Examination required in all cases. Examination fee \$25. No special examination granted to practitioners already in practice. Board is empowered to make interchange of license, in accordance with the Asheville resolution. Interchanges with New Jersey. Secretary, G. F. Cheney, St. Johnsbury, Vt.

Virginia. Examinations required with or without diploma. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any State. Next examination in Richmond June 12, 1906. Secretary, R. H. Walker, Norfolk, Va.



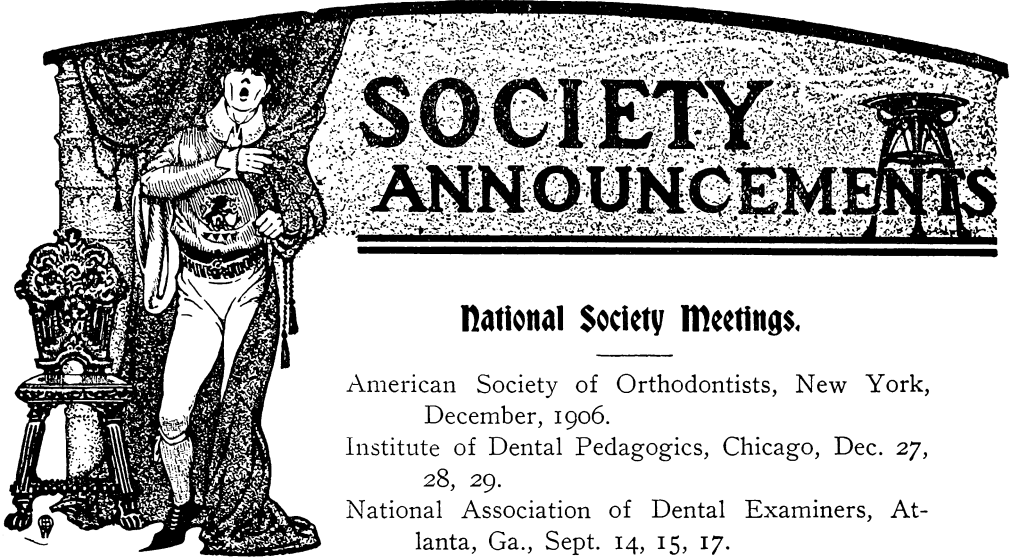
ITEMS OF INTEREST

Washington. Examination required with diploma. Examination fee \$25. No special examination granted to practitioners already in practice. No interchange of license with any States. Examinations in May and November. Secretary, C. S. Irwin, Vancouver, Wash.

West Virginia. Examination required with or without diploma. Examination fee \$10. No special examination granted to practitioners already in practice. No interchange of license with any State. Next examination Charleston, W. Va., June 6-8, 1906. Applications should be filed with the secretary by June 1. Application blanks and all necessary information furnished by the secretary. Secretary, H. M. Van Voorhis, Morgantown, W. Va.

Wisconsin. Examination required with diploma. Examination fee \$10. Dentists who have practised for four years or have been apprenticed to a reputable dentist for five years are entitled to examinations. No special examination granted to practitioners already in practice. No interchange of license with any State. Secretary, J. J. Wright, 1218 Welles Building, Milwaukee, Wis.





National Society Meetings.

- American Society of Orthodontists, New York,
December, 1906.
Institute of Dental Pedagogics, Chicago, Dec. 27,
28, 29.
National Association of Dental Examiners, At-
lanta, Ga., Sept. 14, 15, 17.
National Dental Association, Atlanta, Ga., Sept.
18.

State Society Meetings.

- Alabama Dental Association, Mobile, May 8-11.
California State Dental Association, San Francisco, May 14-18.
Connecticut State Dental Association, Bridgeport, April 17-18.
Florida State Dental Society, Atlantic Beach, June 13, 14, 15.
Illinois State Dental Society, Springfield, May 8-11.
Indiana State Dental Association, West Baden and French Lick Springs,
June 26-28.
Iowa State Dental Society, Des Moines, May 1-3.
Kansas State Dental Association, Topeka, May 10-12.
Kentucky State Dental Association, Dawson Springs, June 4, 5, 6.
Minnesota State Dental Association, Minneapolis, June 11, 12, 13.
Mississippi Dental Association, Gulfport, June 6, 7, 8.
Missouri State Dental Association, Springfield, June 5-7.
Nebraska State Dental Society, Omaha, May 15-17.
New Hampshire Dental Society, Plymouth, May 8-9.
New York State Dental Society, Albany, May 11-12.
Tennessee State Dental Association, Nashville, May 15-17.
Texas State Dental Association, Galveston, June 14, 15, 16.
Vermont State Dental Society, Brattleboro, May 16, 17, 18.



National Association of Dental Examiners.

The twenty-fourth annual meeting will be held at the New Kimball House, Atlanta, Ga., commencing 10 a. m. Friday, Sept. 14, 1906.

The rates per day will be on the European plan from \$1.50 to \$4.00; American plan from \$3.00 to \$6.00. Governed by choice of rooms.

Convention hall will be in the hotel and every effort will be made by the proprietors for the care and comfort of the members.

Arrangements are being perfected for those desiring a short ocean trip for reduced rates, via the Clyde and Old Dominion steamship lines, notice of which will be given by circular later.

CHARLES A. MEEKER, D.D.S.,
Secretary and Treasurer.

29 Fulton St., Newark, N. J.

The Clinical Conference of the New Jersey State Dental Society.

An opportunity is afforded anyone having a difficult case in surgery orthodontia, operative or prosthetic dentistry, to present it for consultation at the coming meeting in July at Asbury Park, N. J. It is hoped that advantage will be taken of this chance to get the opinion and advice of men of exceptional ability in their special lines.

Correspondence is solicited. The committee desires a concise history of the cases on or before May 30th if possible.

J. G. HALSEY, Chairman,
Swedesboro, N. J.
W. W. CRATE, Camden, N. J.
SARAH G. JACKSON, Vineland, N. J.
W. H. GELSTON, Camden, N. J.
A. PERCY ROBERT, Elizabeth, N. J.
J. A. WAAS, Hammonton, N. J.
F. K. HEAZELTON, Trenton, N. J.

Oklahoma Board of Dental Examiners.

There will be a meeting of the Oklahoma Board of Dental Examiners held at Oklahoma City on May 15, 16 and 17, 1906, for the purpose of examining candidates. For particulars of examination and blanks address the secretary.

A. C. HIXON, Secretary,
Guthrie, Okla.



Mississippi Dental Association.

The thirteenth annual meeting of the Mississippi Dental Association will meet in Gulfport, June 6, 7 and 8.

All ethical practitioners of this and other States are cordially invited to attend. Every effort is being made to have this the largest and most profitable meeting ever held, and the pleasures of Gulfport, on the coast, at this time of year, is a feature in itself.

Reduced hotel prices and the usual lower rates on all railroads will be obtained. For complete details address the secretary.

E. DOUGLAS HORD, Secretary.

Vermont State Dental Society.

The thirtieth annual meeting of the Vermont State Dental Society will be held at Brattleboro, Vt., May 16, 17 and 18, 1906.

It is expected that we will have the largest attendance of any meeting ever held by this Society.

All the leading manufacturers have signified their intention of making an exhibit of their products, and this adds greatly to the success of a convention.

Every progressive dentist should be present.

Special social features for Thursday evening.

THOMAS MOUND, Secretary.

Rutland, Vt.

Kansas State Board of Dental Examiners.

The Kansas State Board of Dental Examiners will hold a meeting in Topeka, May 7, 8 and 9, for the purpose of examining candidates who desire to practice dentistry in this State.

Applicants will be examined in regular college branches, and will also be required to demonstrate their ability in the following practical work: Gold, amalgam and cement filling; vulcanite plate, and kind of crown that is necessary for the clinic assigned. An opportunity will be given each to demonstrate his or her knowledge of working porcelain. Materials and furnace for this will be furnished, but for all other operations the materials, small instruments and an engine must be furnished by the candidate. All clinics will be furnished by the Board. Those in-



tending to take the examination should have their fee of \$10.00 and names in the hands of the Secretary by April 15, in order that ample accommodation for each can be arranged for. For further information address

M. I. HULTS, Secretary,
Hutchinson, Kans.

Alumni Association of Baltimore College of Dental Surgery.

The Alumni Association of the Baltimore College of Dental Surgery will hold its reunion at the College Building, Baltimore, Md., May 10 and 11, 1906.

The Committee has endeavored to reach by letter every graduate it has been able to locate. Those who have not received preliminary notice of this reunion are requested to send their address to the Secretary so that they may receive an official program.

An interesting program is being arranged consisting of clinics and papers by men of exceptional ability; also reunion of classes and alumni dinner. All ethical members of the profession cordially invited to attend.

W. W. DUNBRACCO, Secretary,
327 N. Charles St., Baltimore, Md.

Connecticut State Dental Association.

The Connecticut State Dental Association will hold their forty-second annual convention at Bridgeport, Conn., Tuesday and Wednesday, April 17 and 18, 1906.

F. HINDSLEY, Secretary.
Bridgeport, Conn.

Indiana State Dental Association.

The forty-eighth annual meeting of the Indiana State Dental Association will be held at the West Baden and French Lick Springs, Indiana, June 26, 27 and 28, 1906.

The social side of this meeting will be a feature, while the papers and clinics have promise of being the best ever given at this society.

Ethical practitioners are invited to resort, recuperate and reilluminate with us.

R. A. ADAMS, Secretary,
Clinton, Ind.



Missouri State Board of Dental Examiners.

The State Board of Dental Examiners for the State of Missouri will meet for the examination of applicants for registration at Kansas City, May 14, and St. Louis, May 28, 1906. For further particulars inquire of

S. C. A. RUBEY, Secretary,
Clinton, Mo.

Missouri State Dental Association.

The forty-first annual meeting of the Missouri State Dental Association will be held this year at Springfield, Mo., June 5, 6, 7, inclusive.

An unusually interesting program is being arranged. A number of men eminent in the profession have signified their intention of being present, and the meeting promises to be the best in the history of the association.

All ethical dentists are cordially invited to be present.

SAM T. BASSETT,
Corresponding Secretary.

New Jersey State Board of Registration and Examination in Dentistry.

The New Jersey State Board of Registration and Examination in Dentistry will hold their semi-annual examination in Trenton, N. J., on the 9th, 10th, 11th, 12th and 13th of July.

Practical and theoretical work all completed at that time. Sessions begin promptly at 9 a. m. each day. All applications must be in the hands of the secretary by July 1. For further information kindly address the secretary,

CHARLES A. MEEKER, D.D.S.,
29 Fulton St., Newark, N. J.

A Great Dental Clinic.

The Kansas City (Mo.) Dental Society has appointed a committee to arrange for a great dental clinic to be held Feb. 22 and 23, 1907. The committee is represented by Dr. J. P. Root, president, and the following chairmen: J. D. Patterson, Essays; F. G. Worthley, Clinics; T. E. Purcell, Exhibits; M. C. Carpenter, Program; R. M. Siebel, Arrange-



SOCIETY ANNOUNCEMENTS

ments; D. J. McMillen, Reception; C. L. Hungerford, Smoker; C. L. Van Fossen, Finance; J. W. Hull, Publication; F. W. Franklin, Railroads.

The chairmen of the different committees have been at work, even at this early date, and have arranged for quarters at the Midland—having secured the large banquet hall for the clinics and enough other room for the exhibits, etc. Everything is being planned in a large way so as to make this greater than all former clinics.

The clinicians will be selected from among the most prominent men in their respective lines. One evening will be devoted to essays—limited to two in number—and will be given by men well known in scientific dentistry. A complimentary banquet will be given the clinicians and essayists by the local dentists.

The committeemen back of this undertaking realize its magnitude and expect to exercise the necessary energy to push it to a successful end. All ethical dentists and dental societies are requested to keep this date in mind and co-operate in making this a great dental gathering and the greatest of all practical dental clinics.

St. Louis Dental Society.

The next meeting of the St. Louis Dental Society will be held April 3d, and will be devoted to table clinics. W. A. RODDY, Secretary.

Lake Erie Dental Association.

The annual meeting of the Lake Erie Dental Association will be held at the Hotel Rider, Cambridge Springs, Pa., May 15, 16, 17. Round trip excursion rates on all roads may be procured. The committees are working hard to make this an extra fine meeting. All ethical dentists are most cordially invited to attend.

V. H. McALPIN, Secretary,
Warren, Pa.

Dental Society State of New York.

The thirty-eighth annual meeting of the above society will be held in Albany on the 11th and 12th of May, when the following program will be presented: President's address, Dr. W. J. Turner; Report of the Correspondent, Dr. Ellison Hillyer; Report of Committee on Practice, Dr. E. Howard Babcock; Report, Scientific Research, Dr. F. W. Low;



Essay, Dr. Edward C. Kirk, Philadelphia; Essay, Dr. J. Q. Byram, Indianapolis, Ind.; Essay, Dr. H. A. Pullen, Buffalo, N. Y.; Essay, Dr. G. B. Mitchell, Buffalo, N. Y.; Essay, Dr. W. B. Dills, Brooklyn.

In addition to the above a large number of special clinics will be given. The sessions will be held in the assembly hall of Hotel Ten Eyck, and a very cordial invitation is extended to all reputable members of the profession to attend the meeting. Trunk Line Association rates on all railways.

CHARLES S. BUTLER, Secretary,
The Frontenac, Buffalo, N. Y.

Illinois State Board of Dental Examiners.

The next regular meeting of the Illinois State Board of Dental Examiners for the examination of applicants for a license to practice dentistry in the State of Illinois, will be held in Chicago, at the Northwestern University Dental School, southeast corner Lake and Dearborn streets, beginning Monday, June 4, at 9 a. m.

Applicants must be in possession of the following requirements in order to be eligible to take the examination: First, any person who has been engaged in the actual, legal and lawful practice of dentistry or dental surgery in some other State or country for five consecutive years just prior to application; or second, is a graduate of and has a diploma from the faculty of a reputable dental college, school or dental department of a reputable university; or third, is a graduate of and has a diploma from the faculty of a reputable medical college or medical department of a reputable university, and possesses the necessary qualifications prescribed by the Board.

Candidates will be furnished with proper blanks and such other information as is necessary upon application to the secretary. All applications must be filed with the secretary five days prior to the date of examination. The examination fee is twenty dollars (\$20.00), with the additional fee of five dollars (\$5.00) for a license.

Address all communications to

J. G. REID, Secretary,
1204 Trude Building, Chicago, Ill.

New York College of Dentistry, Class of '96.

The class of '96 of the New York College of Dentistry will celebrate its tenth anniversary in May.

GUSTAVE R. STERN, D.D.S., Chairman.



Southern Wisconsin Dental Association.

The twelfth annual meeting of the Southern Wisconsin Dental Association will be held at Milwaukee, May 30 and 31, 1906. We want to lay special stress on the clinical part of our meeting, as we are going to try to make it one of the largest the State has ever had. We have some of the best clinicians coming from our border States, and we expect to have a good meeting. All ethical practitioners are cordially invited to meet with us.

C. W. COLLVER, Secretary,
Clinton, Wis.

Maryland State Board of Dental Examiners.

The Maryland State Board of Dental Examiners will meet for examination of candidates for certificates May 14 and 15, 1906, at the Dental Department of the Baltimore Medical College at 9 a. m. For application blanks and all information apply to F. F. DREW, Secretary,
701 No. Howard St., Baltimore, Md.

Southwestern Michigan Dental Society.

The Southwestern Michigan Dental Society will hold its annual meeting at Niles, Mich., April 10 and 11. All reputable practitioners are cordially invited.

C. M. JOHNSON, Secretary and Treasurer,
Lawton, Mich.

J. H. PALIN, President,
Grand Rapids, Mich.

Alumni Association of the St. Louis Dental College.

The annual clinic and class reunion of the Alumni Association of the St. Louis Dental College will be held in St. Louis May 7th and 8th of this year. The various committees have been working energetically, each in its different line, and report that this will be the largest clinic given by the association. The Committee on Essays have a number of valuable and original papers. The Committee on Clinics have already secured eighty-five interesting clinics, and expect to have one hundred the day of the clinic.

OSCAR HAMMER, President.
R. O. BUTTS, Secretary.



Florida State Board of Dental Examiners.

The regular annual meeting of the Florida State Board of Dental Examiners, for the examination of applicants, will be held in Jacksonville, Fla., June 8, 9, 11 and 12, 1906.

Applicants will be examined in the regular college branches and will also be required to do practical work in filling with gold, amalgam and cement, and crown and bridge work. Applicants must furnish the instruments.

Only graduates of reputable dental colleges admitted to examinations. It will therefore be absolutely necessary for each applicant to exhibit his diploma before examinations begin. Absolutely no interchange of licenses with any State.

If applicants wish to take advantage of reduced railroad rates they should buy tickets to Atlantic Beach.

W. G. MASON, Secretary,
Tampa, Fla.

Fifth District Dental Society of the State of New York.

The thirty-eighth annual meeting of the Fifth District Dental Society of the State of New York will be held at Vanderbilt Hotel, Syracuse, N. Y., on April 10th and 11th.

W. H. LEAK, D.D.S.,
Watertown, N. Y.

Alumni Association of St. Louis Dental College.

The Alumni Association of St. Louis Dental College (formerly Marion Sims) will hold their annual clinic at the College building, Grand avenue and Caroline street, Monday and Tuesday, May 7 and 8. Program to be published in next issue of this journal. Address all communications to Dr. Geo. B. Winter, Fresno Building, St. Louis.

DR. O. HAMMER, President,
DR. R. O. BUTTS, Secretary.